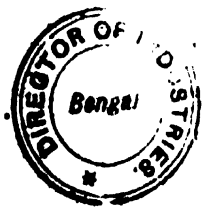

DIRECTOR OF
Bengal

SEAT WORK

AND

INDUSTRIAL OCCUPATIONS

SEAT WORK

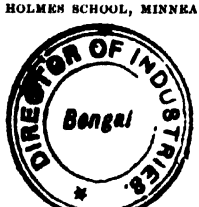
AND

INDUSTRIAL OCCUPATIONS

A PRACTICAL COURSE
FOR PRIMARY GRADES

BY

MARY L. GILMAN
PRINCIPAL OF THE CLAY SCHOOL, MINNEAPOLIS, MINNESOTA
AND
ELIZABETH B. WILLIAMS
PRINCIPAL OF THE HOLMES SCHOOL, MINNEAPOLIS, MINNESOTA



New York
THE MACMILLAN COMPANY
LONDON: MACMILLAN & CO., LTD.
1905

Set up and electrotyped. Published May, 1905.

I believe that the school is primarily a social institution.

I believe that education is a process of living, and not a preparation for future living.

I believe that the school must represent present life, — life as real and vital to the child as that which he carries on in the home, in the neighborhood, or on the playground.

I believe that the school life should grow gradually out of the home life, — that it should take up and continue the activities with which the child is already familiar in the home.

I believe it should exhibit these activities to the child, and reproduce them in such ways that the child will gradually learn the meaning of them, and be able to play his own part in relation to them.

I believe that the SOCIAL LIFE *of the child is the* BASIS OF CONCENTRATION, OR CORRELATION, *in all his training or growth. The social life gives the unconscious unity and the background of all his efforts and all his attainments.*

— From "My Educational Creed." Professor JOHN DEWEY.

THE authors desire to acknowledge their obligations to Mrs. Fannie M. Jones, late Principal of the Laurel School, Minneapolis, who read the manuscript and made many helpful suggestions; and to whom credit is due for the illustrative drawings and cuttings used throughout the book.

M. L. GILMAN.
E. B. WILLIAMS.

SUGGESTIONS TO TEACHERS

THIS little book is the outcome of our personal work with little children, supplemented by gleanings here and there during several years of supervision.

The plan aims at simplicity. It includes: —

1. A series of simple kindergarten paper folding.
2. A series each of strip work and of pencil check work based on one and two inch strips and squares. Objects made similar to Series I.
3. A series in drawing and cutting circles.
4. A series combining strips and circles.
5. A series doing away with help of folds and pencil checks.
6. Home work — simple application of principles in making clothing or furniture for dolls.
7. Freehand and illustrative cutting.
8. Poster work.
9. Sand table and clay work.
10. Things to make for special days.
11. Development of a playhouse.
12. Directions for helpful seat work.
13. Primitive industrial work.

The mechanical system of paper folding and checking gives the child a working basis by which later he makes and invents gifts for his friends and furniture for his playhouse.

The work outlined above, being *legitimate school work*, should have a definite place on the program, as it furnishes a *motive*.

for reading, language, writing, spelling, and number, — making the "three R's" *tools* in the child's education, as they ought to be, rather than *ends* in themselves.

The schoolroom thus becomes to the child a place where he lives a real life, — where he does things as real to him as our doings are to us.

Material: —

Material may be had in abundance, even if not found among the school supplies, by getting the necessary things from the children themselves.

Call upon them to bring from home paper, cord, ravelings of yarn, carpet, and matting, bits of cloth, and other things that are required.

By purchasing "print" paper, either in the form of "tablets" or cut up into sheets, much can be obtained at a small expense.

If the children contribute a few cents each month, the school can be well supplied with all the material necessary, as clay, manila tag, a heavy folding paper in pleasing colors cut in squares. Scissors may be brought from home if not furnished.

Use the media of expression best suited to the subject, *e.g.* in illustrating "The Three Bears" one may use paper, — either cutting freehand or making objects, as beds and chairs, according to the mechanical plan, as folding or checking, — or children may be furnished clay.

The following mechanical plan is acquired little by little by the wee ones, and may be begun the first day they enter school.

CONTENTS

SERIES II

Measuring and Ruling 1-Inch Strips

SERIES III

Measuring and Ruling 1-Inch Squares

SERIES IV

Measuring and Ruling 2-Inch Strips

SERIES V

Measuring and Ruling 2-Inch Squares

SERIES VI

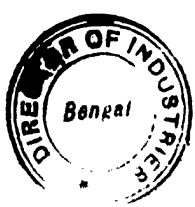
Drawing and Cutting Circles

SERIES VII

Circles and Strips Combined in Making Boxes

SERIES VIII

Measurements without Aids



ILLUSTRATIONS

SERIES I

KINDERGARTEN PAPER FOLDING

TO FOLD OBLONGS OR SQUARES

Materials: print paper, either 6 by 8 inches or 6 inches square.

General Directions. — Each child has a sheet of the paper placed lengthwise on his desk.

The teacher also has a sheet of the same paper, which she folds in the presence of the class, as she dictates. Children follow her directions.

Exercise 1

Dictate: —

Find upper edge.
Find lower edge.
Find the right edge.
Find the left edge.
Touch the upper left corner.
Touch the lower left corner.
Touch the upper right corner.
Touch the lower right corner.
Place the left hand on the paper. Hold.
With the right hand take the upper right corner.

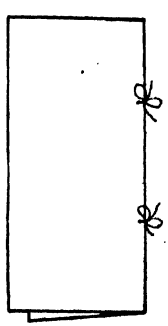


Fig. 1.

Fold the right edge to meet the left edge. Crease. Open. Lift. What have you? (Fig. 1.)

Child answers: "A book." Teacher talks about book: "Play read your book. — Play sing from your book."

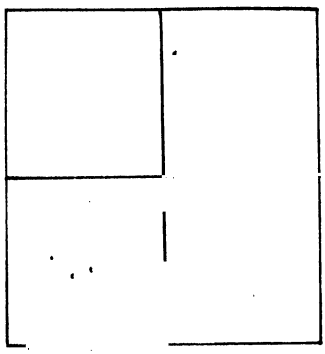


Fig. 2.

Child may fold other sheets and make a booklet.

Another Lesson. — Repeat above directions to "crease." Open. Do not lift.

Dictate: —

With the right hand fold lower edge to meet the upper edge. Crease. Open. Lift. What have you? Child may say "a window." If so — "What do you see through the window? — How many panes in your window?" (Fig. 2.)

Exercise 2

TO FOLD STRIPS

Dictate: —

Fold the lower edge to meet the upper edge. Crease. Open.

Fold the lower edge to meet the center. Crease. Open.

Fold the upper edge to

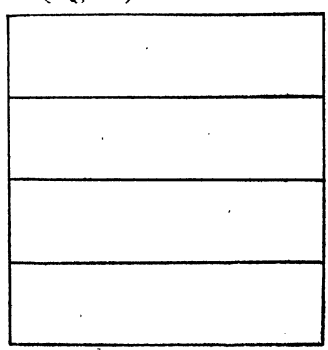


Fig. 3.

meet the center. Crease. Open. How many strips have you? (Fig. 3.)

The strips may be put to a variety of uses; as, mat weaving, making of chains, etc.

Any kind of soft paper will answer for the first lesson, but after the children have acquired some facility in folding, then use paper of a better quality, and prettily colored as well.

Exercise 3

TO FOLD CHECKS

Materials: same as in Exercise 1.

Repeat directions for folding strips.

Dictate: —

Fold right edge to meet left edge. Crease. Open.

Fold right edge to meet center. Crease. Open.

Fold left edge to center. Crease. Open. What have you made?

Suggestive Questions. — How many oblongs have you made?

How many in the top row?

How many in the right hand row?

How many in the two middle rows?

The making of strips and checks may be done again and again before taking up the next exercise, and the paper used in little lessons, as indicated below in 1, 2, 3, 4, and 5.

1. Write lists of words.
2. Make figures.
3. Make pictures.
4. Illustrate words.
5. Trace circles.

Exercise 4

TO FOLD A SQUARE FROM AN OBLONG

From the square to make: shawl, tablecloth, napkin.

Materials: print paper 6 inches by 8. Scissors.

Dictate: —

Place paper lengthwise on desk.
Find the upper edge.
Find the lower edge.
Find the right edge.
Find the left edge.
Touch the upper left corner.
Touch the lower left corner.
Touch the upper right corner.
Touch the lower right corner.
Place the left hand on the paper. Hold.
With the right hand take the upper right corner.
Fold the right edge to meet the lower edge.
Hold in place with finger of left hand. Crease.
Lift the paper.
Fold the left side under from the corners. Crease. Open.
Cut off the strip.

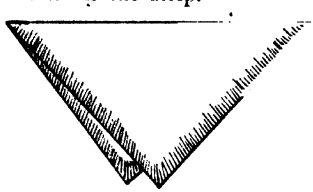


FIG. 4.

What have you left? A square. A 6-inch square.

TO FOLD A SHAWL

Dictate: —

Fold a square as in Exercise 4.

Fold and crease diagonally. (Fig. 4.)

The objects shown are meant to be suggestive only. The teacher can adapt them to the general work being done. For example, at Thanksgiving time the square may be a Puritan kerchief, or apron, etc.

Exercise 5

APPLICATIONS AND DEVELOPMENT FROM EXERCISE 4

TO FOLD AN ENVELOPE

Materials: print paper, scissors.

Dictate: —

Fold and cut to form a 6-inch square.

Fold lower to upper edge. Crease. Open.

Fold right to left edge. Crease. Open.

Cut along creases. Four 3-inch squares result.

Place one of the 3-inch squares with a corner toward you.

Fold lower corner to center. Crease.

Fold right corner to center. Crease.

Fold left corner to center. Crease.

What have you now? An envelope.

TO FOLD A PICTURE FRAME

Dictate: —

Fold as for envelope.

Lift the upper corner to meet upper fold. Crease.

Lift the lower corner to meet lower fold. Crease.

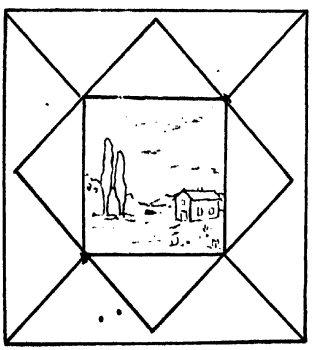


Fig. 5.

Lift right corner to meet right fold. Crease.

Lift left corner to meet left fold. Crease. (Fig. 5.)

TO FOLD A PURITAN HAT

Dictate as for envelope.

Close the envelope.

Turn envelope over (ready to address).

Fold lower edge of square to meet the upper crease.

Fold right hand corner to meet middle of upper edge.

Fold left hand corner to meet middle of upper edge.

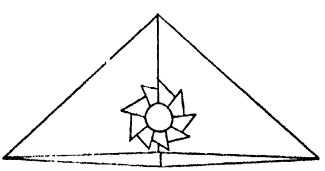


Fig. 6.

Newspapers or large pieces of wrapping paper folded in this manner will make caps — soldier caps — large enough for children to wear on patriotic days. A red, white, and blue cockade may be added. (Fig. 6.)

TO FOLD A BOAT

Use square paper.

Dictate: —

Fold paper into 16 checks. (By this time the child should be able to fold oblong or square paper into 16 checks without detailed directions.)

Without opening paper, turn it over.

Find lower right square (double square).

Fold lower right hand corner to meet opposite corner.

Find upper right hand square (double square).

Fold upper right corner to meet opposite corner.

With left hand find lower square.

Fold lower left corner to meet opposite corner.

Do the same with upper left square.

Find upper edge of figure and fold to meet lower edge. Crease. Open; boat. (Fig. 7.)

Fig. 7.

In all folding keep the paper in one position and let each hand do the work nearest it; otherwise, when the paper is turned, the right hand does all of the work.

Exercise 6

TO FOLD A MANTELPIECE AND FIREPLACE

Materials: paper 6 inches square, scissors.

Dictate: —

Fold paper into 16 checks.

Cut out four squares from middle of lower half; or, cut on first crease, on right side, up two squares.

Cut on middle crease, to the left, two squares.

Cut on left crease down two squares.

How many small squares have you cut out? How many large squares?

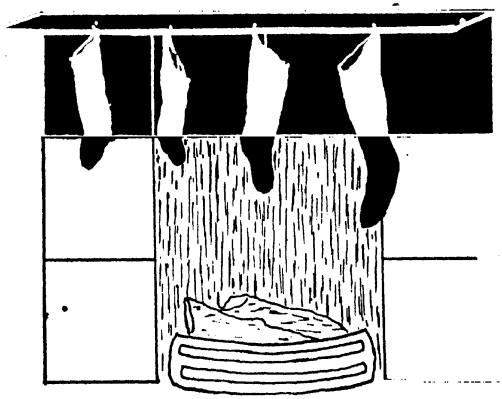


FIG. 8.

What have you made? (Fig. 8.)

As children get more skill this mantel can be cut from diagram drawn on blackboard. The shelf is made by folding the upper edge from the first crease, pasting, and turning out.

For Christmas add stockings, etc. Cut stockings freehand. Paste in.

A fender, sticks of wood, tongs, etc., may be added.

Square may be used for cornucopia at Christmas time.

Exercise 7

TO FOLD A BOX

Materials: folding paper 6 inches square, paste, scissors, inch tablet.

Dictate: —

Fold paper into 16 checks as for fireplace.

At the corner cut along one crease the length of one square.

Turn the loose square inside and paste or sew to form corner and sides of box.

Suggestive Questions. — How many squares in bottom of box? In each side?

TO FOLD A CRADLE

This is a simple variation of the box.

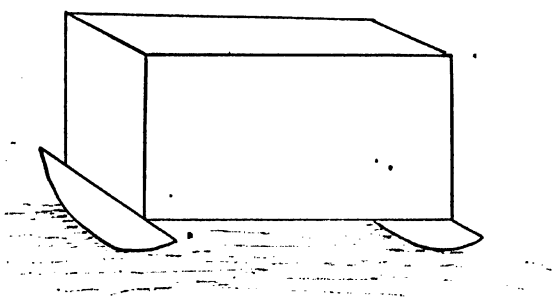


Fig. 9.

Dictate: —

Fold the paper into 16 checks as before.

Cut off one row of 4 small checks.

At each corner cut along crease the length of one check.

Lap and paste as before.

Fold the strip cut off in two.

Cut one edge into circular form.

Use for rockers. Paste on. (Figs. 9 and 10.)

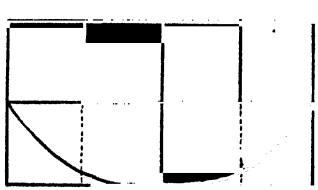


Fig. 10.

TO FOLD A NEEDLEBOOK

Materials: folding paper, 6 by 8 inches. Thin paper for lining. Paste, scissors, needle, worsted, inch tablet.

Dictate:—

Fold nearer edge to farther edge. Crease. Open.

Tear or cut along crease.

Take one of the pieces, fold left edge to right edge. Crease. Open. This makes back of needlebook.

Place needlebook with fold to the left.

Place one-inch tablet in center, with a corner toward you. Trace around it with colored pencil for decoration.

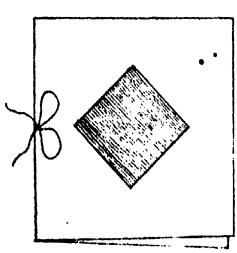


Fig. 11.

Cut lining of thin paper same size as cover.

Paste in.

Cut from thin paper two smaller leaves for needles.

Fasten in with worsted. (Fig. 11.)

The other half of the paper should be kept for another exercise. Economy is one of the important lessons to inculcate.

Library paste in tubes is most convenient for use in the schoolroom. If greater economy must be practiced, paste may be made of flour. Children will be delighted to make it at home.

Use some of the little squares, cut by the children, for paste plates, turning up the edges; toothpicks for brushes.

Exercise 8

TO FOLD A TABLE

Materials: folding paper, 6 inches square, scissors, paste.

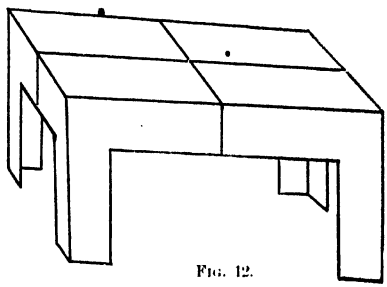


Fig. 12.

Dictate: —

Fold paper into 16 checks.

At each corner, beginning at lower left corner, cut up first crease the length of one square.

Lap loose pieces. This makes a box. Paste.

Cut out sides and ends, making legs of any style. (Fig. 12.)

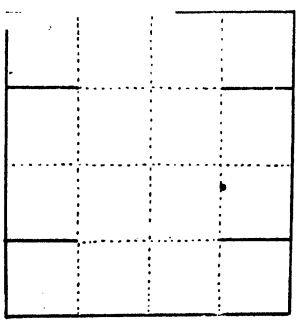


Fig. 13.

TO FOLD A BUREAU

Materials: same as for table.

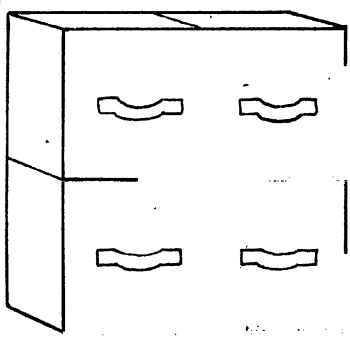


Fig. 14.

Dictate: —

Fold 16 checks or squares.

Make a box as above. Draw handles. (Figs. 13 and 14.)

TO FOLD A CHAIR

Dictate: —

Fold paper into 16 checks.
Cut off right hand row (4 checks).
Cut off lower row (3 checks).
Cut up each crease on lower row (1 check).
Cut along upper row from right to left (1 check).
Cut same from left to right. (Fig. 15.)
Lap and paste. (Fig. 16.)

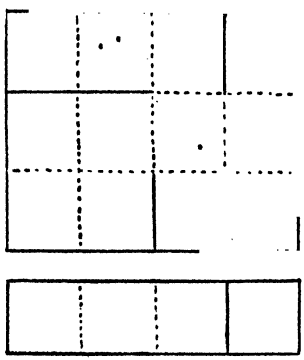


Fig. 15.

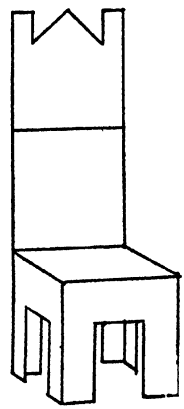


Fig. 16.

From material left, children may cut dolls to sit in chair.

Always let children use left-over material as they please.

There is an opportunity here in making chairs for children to exercise their inventive faculty in forming the backs and rounds. They will show considerable capability in this direction if encouraged to do so.

By a simple variation of the above, a lounge will be the result, cutting off the first row of squares. Make an oblong box, leaving one check to stand upright for head of lounge.

Exercise 9

TO FOLD A HOUSE OR BARN

Materials: sheet of folding paper, scissors, paste.

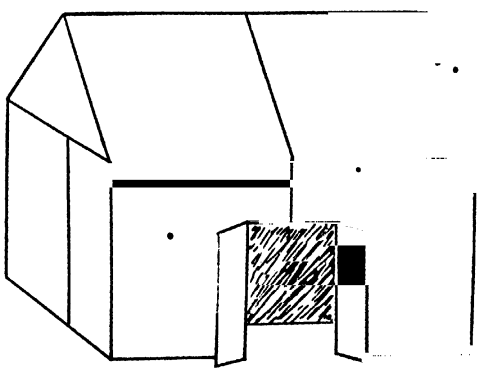


Fig. 17.

Dictate: —

Fold into 16 oblongs.

On the short sides at each crease, cut the length of one oblong.

Lap the middle oblongs to form the gables. Paste.

Lap the loose oblongs over the gables. Paste.

Cut out doors and windows (Fig. 17.)

TO FOLD A TOWER OR CHIMNEY

Take paper 4 inches by 6 inches.

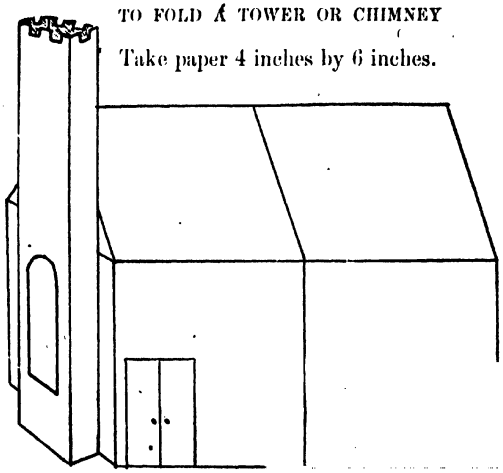


Fig. 18.

Dictate: —

Place with a short edge in front.

Fold front edge to back. Open.

Fold front edge to middle. Open.

Fold back edge to middle. Open.

Fold front edge to top crease. Open.

Fold back edge to lower crease. Open.

Smooth out the middle crease.

Lap large oblongs at ends over each other and paste.

If for tower, notch top in imitation of stone.

If for chimney of blacksmith's shop, put it on the side of the building opposite the door. Cut door the same as for barn. (Fig. 18.)

TO FOLD A MATCH BOX

Materials: sheet of stiff folding paper 6 inches square, scissors, paste.

Dictate: —

Fold into 16 checks. On the upper row cut out corner checks.

On each side cut along third and fourth rows the length of one check.

Fold to make box with lid. Paste.

After children have learned to fold 16 checks or oblongs, they may make from this an infinite variety of objects — either from oral or written dictation, or from diagram.

Objects of this kind will suggest themselves to the teacher and to the child.

TO FOLD A LANTERN

Material: Any kind of colored paper.

Take a square of paper.

Dictate: —

Fold once through center.

Through the fold slash (at intervals of $\frac{1}{4}$ to $\frac{1}{8}$ inches) to the opposite side, perhaps $\frac{1}{2}$ inch from the edge.

Open. Paste together.

Paste on handle. (Fig. 19.)

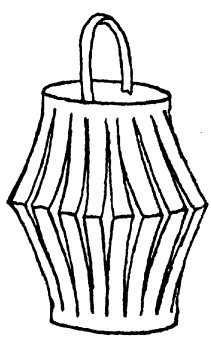


FIG. 19.

TO FOLD A SCISSORS HOLDER

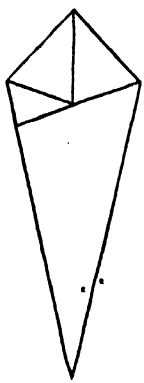


Fig. 20.

Material: heavy paper.

Dictate: —

Children cut a 4-inch square.

From upper right hand corner place dot 1½ inches down on right hand edge.

On upper edge place a dot 1½ inches from upper right hand corner.

From first dot and lower left hand corner of square fold paper up. Crease.

From the same corner and second dot fold the paper down. Crease. Paste. (Fig. 20.)

A cornucopia can be made in same manner, using a larger square if desired.

TO FOLD A BOOKMARK

Dictate: —

Take a square of paper, fold into window form (4 squares). Open into book form.

Place crosswise on the desk with the open edges down.

Fold upper right hand corner to meet diagonal corner.

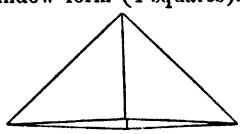


Fig. 21.

Repeat with the upper left hand corner. (Fig. 21.)

TO FOLD A SAIL BOAT

Dictate: —

Take a square of paper 8 by 8 inches.

Fold into 16 squares. Open.

Fold the large square on both of its diagonals. Open.

Fold the corners to meet in center of square. Open.

Fold the lowest row of squares up to the middle.

Turn in the double corners at each end of the double fold. This makes the boat.

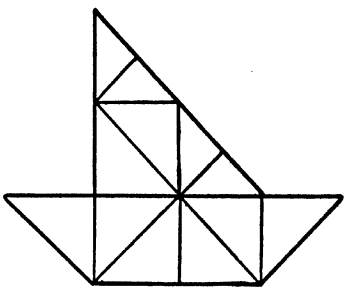


Fig. 22.

Turn the paper over.

Fold the right hand row of squares to the middle.

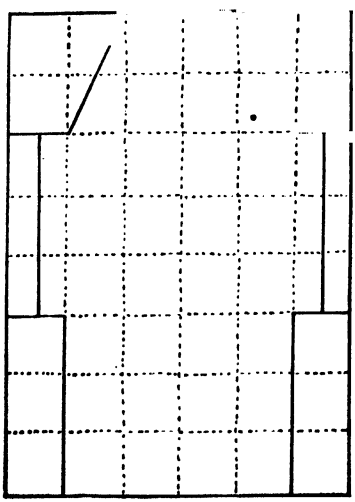


Fig. 23.

Fold the left hand row of squares to the middle. This forms the sail. (Fig. 22.)

Children like to cut out a man to stand in the boat.

TO FOLD AN ENVELOPE

Material: Paper checked 6 by 8 inches.

Dictate: —

Place vertically on desk.

Beginning at the bottom, at the right side, cut off 3 inches.

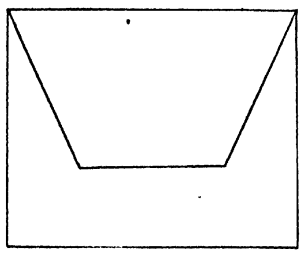


Fig. 24.

Paste laps.

Cut envelope lap to suit. (Fig. 24.)

TO FOLD A PORTFOLIO

Material: Paper checked 9 by 6 inches.

Dictate: —

Place vertically on desk.

Fold bottom up 3½ inches. Unfold.

From lower corners cut up and off strips ½ inch by 3½ inches long.

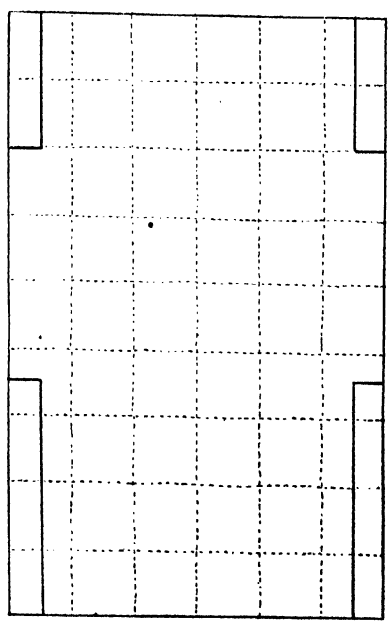
Beginning at the bottom, at the left side, cut off 3 inches. (Fig. 23.)

Fold bottom up 3 inches.

Find inch lap.

Cut off ½ inch on each side of lap.

Fig. 25.



From upper corners cut down and off strips ½ inch by 2 inches long.

Paste laps. (Fig. 25.)

TO FOLD A BEDSTEAD

Take paper of any size or kind.

Dictate: —

Check into 16 oblongs.

At each end cut up the length of one oblong at the first and third fold.

Lap the loose oblongs to make the ends of bedstead.

Turn up the other two oblongs to form head and foot of bed. (Fig. 26.)

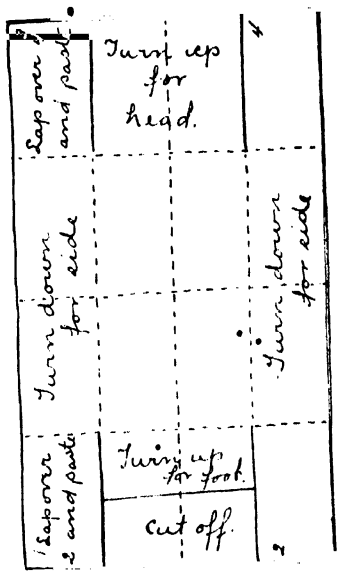


Fig. 26.

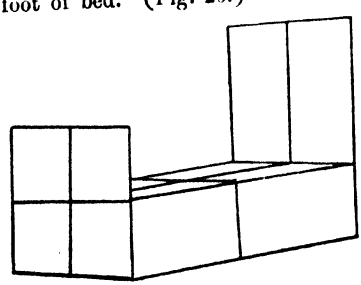


Fig. 27.

These can be left as they are, or one cut off to make the foot lower than the head, or they can be cut to any shape desired.

The same with the sides and ends; they can be left solid or cut out to form legs. (Fig. 27.)

TO FOLD A BOX WITH LID

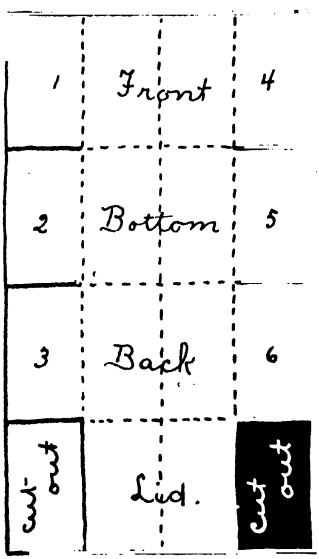


Fig. 28.

Take an oblong sheet of any kind of paper.

Dictate: —

Mark into 16 oblongs.

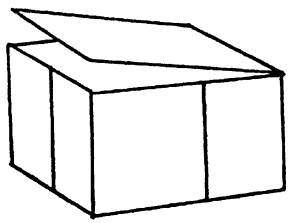


Fig. 29.

Cut off the lower right hand corner oblong.

Cut off the lower left hand corner oblong.

On each side cut between each oblong to first crease. (Fig. 28.)

Fold into box form, and turn over lid. (Fig. 29.)

TO FOLD A WOOD-BOX WITH BACK

Dictate: —

Check paper into 16 oblongs.

Hold paper vertically.

On right side cut between first and second oblongs to first crease.

On the left side, do the same.

Find the upper right hand oblong.

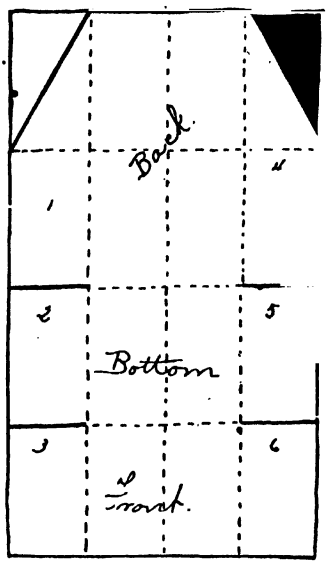


Fig. 30.

Cut the diagonal from the lower right hand corner of oblong to the upper left corner. (Fig. 30.)

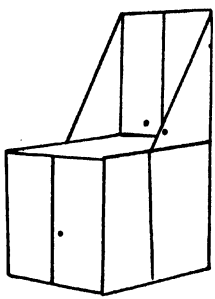


Fig. 31.

Cut the diagonal of the upper left hand oblong to correspond.

Fold into box form; the half oblongs form part of the sides of the box. (Fig. 31.)

TO FOLD A PONY CART

Dictate: —

Fold a square of paper into 16 squares.

Fold and paste as for open box.

Make with circle marker two circles twice the height of box, for wheels.

Fasten these wheels on at the center of the sides of the body, using half a toothpick for axle.

Cut two strips about three times the length of the body for shafts, and paste on. (Fig. 32.)

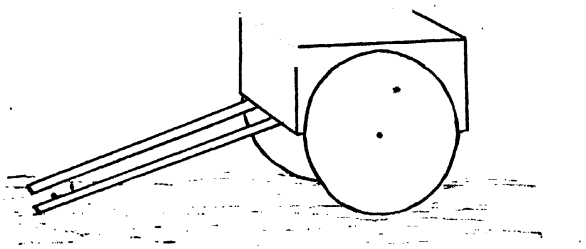


Fig. 32.

The children may use any little scraps of paper to make a seat, — simply a strip folded in bench form.

They can, too, exercise their own ingenuity, if they are so inclined, and cut a pony to stand between the shafts, driver on the seat, etc.

By simply standing another box upright in the back of the cart and slanting the sides, a doctor's gig will result.

TO FOLD A SLEIGH

Dictate: —

Fold an oblong sheet of paper into 16 oblongs.

Hold with long side toward you.

Beginning at the lower right hand corner, cut along first oblong to crease.

Do the same at each of the other corners.

At one end cut off half of the first row of oblongs. Let this end be the front of the sleigh.

At the other end, or back, cut off diagonally one half of each corner oblong.

Fold into box form.

Paste the back and sides together.

Fold the front corner oblongs along their diagonals.

Paste to the sides along these diagonals.

This will make the dashboard.

For the runners, take two strips of paper the length and width of the sides of the sleigh.

Fold through the middle lengthwise.

Open, and cut the runners, freehand. Cut one long one or two short ones, or bobs, for each side.

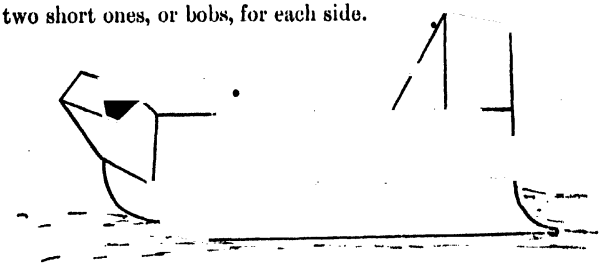


Fig. 33.

Paste under body of the sleigh. (Fig. 33.)

By slightly varying this same box form and adding wheels, a farm wagon, a carriage, or other vehicle may be made.

By placing another box upright in one end and slanting the sides, a covered carriage will result. A doll or baby carriage can be made in the same manner.

SERIES II

MEASURING AND RULING 1-INCH STRIPS

In this series definite measurement is taught; also, the use of the ruler.

The child should always have at hand an inch tablet and circle (perhaps, too, a 2-inch tablet and circle), also a cardboard ruler. It is better not to give the child a ruler divided into inches; at least inches should not be used until later. The child should learn the inch by use of his tablet.

That is, he makes rows of square inches by tracing around his tablet. To add interest, these squares may be used in various ways, — arranged as designs, cut out and pasted, or strung on raffia for decorations.

The child should learn to use the inch tablet as a measure in placing dots one inch apart along one edge of his paper, then along the opposite side.

These dots he connects by his ruler (a strip of cardboard), and his paper is ruled.

Now he may write upon it, make figures, or draw pictures, as desired.

This ruling should be done daily. The child may use the paper in various ways for his work. (See suggestion in Series III.)

Exercise 1

TO MEASURE AND RULE LINES ONE INCH APART

Materials: sheet of print tablet paper any size, inch tablet or inch cube, ruler, lead pencil.

Dictate: —

Place paper lengthwise on desk.

With the inch tablet, or inch cube, for a measure, mark with dots the inches on each side.

Lay the ruler on the two upper dots. Hold firmly with the left hand.

Draw a line from left to right.

In the same manner connect each pair of dots.

Suggestive Questions. — How many inches did you mark off on the left side?

On the right side?

How many lines have you drawn?

How many strips can you see?

Practice this measuring with inch tablet until some degree of facility is obtained.

Exercise 2

Same exercise as No. 1, only making use of stiff paper.

Exercise 3

TO RULE AND CUT STRIPS

Materials: sheet of print or colored paper.

Dictate: —

Inch strips measured and ruled, as in Exercises 1 and 2.

Cut along the lines, making three strips to be used in weaving and in making chains.

Exercise 4

TO MEASURE AND RULE A BOOKMARK

Give the children an oblong of colored paper 3 by 7 inches.

Dictate: —

Place horizontally on the desk.

Fold lower edge to meet upper edge. Crease.

With inch tablet mark at each end one inch from fold.

Place dots.

Connect the dots with a horizontal line.

Mark this line in inches, using the inch tablet for measure.

In the same manner measure and mark fold.

Connect opposite dots with vertical lines.

Cut along the vertical lines to the horizontal line.

Cut a strip about 2 by 7 inches of prettily contrasting paper.

Weave this strip through the slashes of the other paper.

This bookmark can easily be varied as the children gain power. For instance, it can be cut into half inches and woven as before. Then, too, the cutting may be diagonal and the result will be more pleasing. Again, the cutting may be a simple or a compound curve. But in these cases the teacher should illustrate on the blackboard the cutting she wishes to have.

Exercise 5

TO MEASURE AND RULE A PICTURE FRAME

Material: stiff folding or colored paper.

Dictate: —

Measure and cut, as in preceding exercises, into inch strips.

Corners of frame may be fastened with cord or paste, or may be sewed together.

Lay the frame over a picture, and paste both together.

The following application will be both interesting and useful:

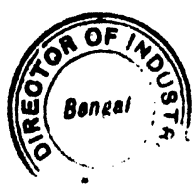
TO MEASURE AND RULE A YARD MEASURE

Material: a strip of muslin or tape, 1 inch wide and 36 inches long.

Dictate: —

Measure the strip into inches with the tablet, and mark each plainly with a line.

Roll on spool.



SERIES III

MEASURING AND RULING 1-INCH SQUARES

Up to this point the children have been taught to measure strips only. Now they advance another step and learn that things can be measured in two directions, and the square or check, if that term is preferred, is introduced.

Exercise 1

TO MEASURE SQUARE INCHES OR CHECKS

Materials: print tablet paper, ruler, pencil, inch tablet or inch cube.

Dictate: —

Measure as in preceding exercise and draw the horizontal lines.

Measure and mark inches along upper edge.

Same along lower edge.

Connect opposite dots with vertical lines, using the ruler, and you have paper checked in square inches.

Interesting use can be made of this checked paper in the "seat work," in a variety of ways, some of which are suggested below.

Children will soon be able to originate many ways to fill the squares after the teacher has given a few illustrations; but such directions as, "Write the new words we learned

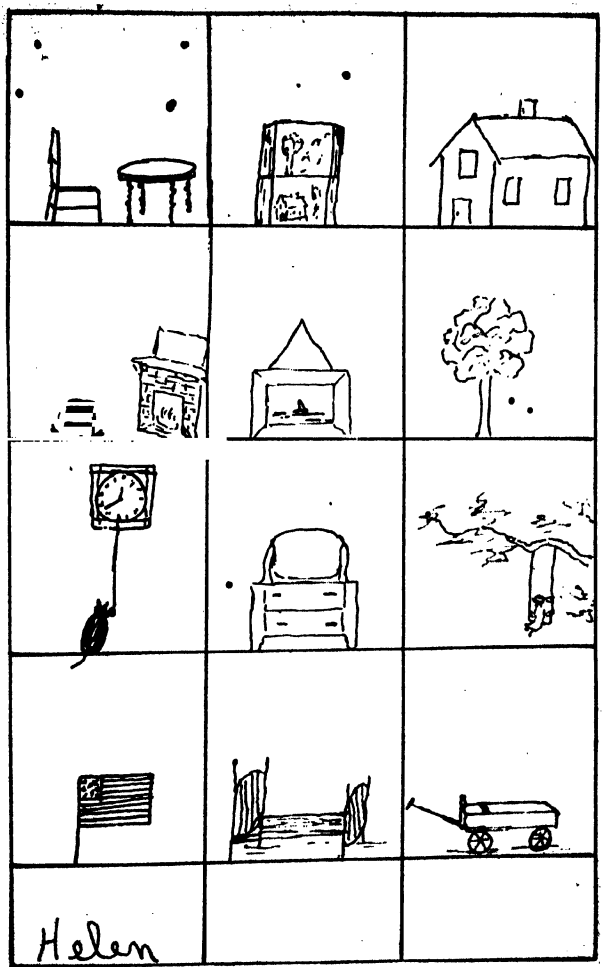


Fig. 34.

to-day"; "Make a picture of the things we read about this morning," etc., will bring the best results.

Also fill with names of objects or pictures to illustrate them. (Fig. 34.)

The paper can be used also in number work.

Suggestive Questions: How many 2-inch squares on your paper?

How many in the first row?

How many square inches in the upper row of squares?

Cut from your paper a square which shall contain four 2-inch squares.

Cut an oblong 2 inches wide by 6 inches long, etc.

Cut a 2-inch square.

Cut a 3-inch square.

Cut a 4-inch square.

Exercise 2

A LESSON IN NUMBER

This exercise is to be given either from oral or board dictation, according to the ability of the class. If the children can read readily, and have power to follow directions unaided, then this is an excellent exercise for seat work; but if they are not able to do the work independently, it must be a class exercise dictated by the teacher.

The exercise combines practice in measuring with observational number work.

Materials: paper, ruler, pencil, scissors, inch tablet.

Measure the paper and mark into squares, as in previous exercises.

Dictate: —

Cut a 2-inch square from the upper left corner.

Cut a 3-inch square from the lower left corner.

From upper right corner, cut a 5 by 4-inch oblong.

From strip remaining at bottom, cut as many 2-inch squares as you can.

Suggestive Questions: In the 3-inch squares, how many squares?

How many square inches?

Show a third of the square inches.

After finishing the number lesson, the pieces may be used by children as they please. They will probably, from previous instructions, make boxes and furniture.

Exercise 3

Make a sheet of square inches as before, using stiff paper.

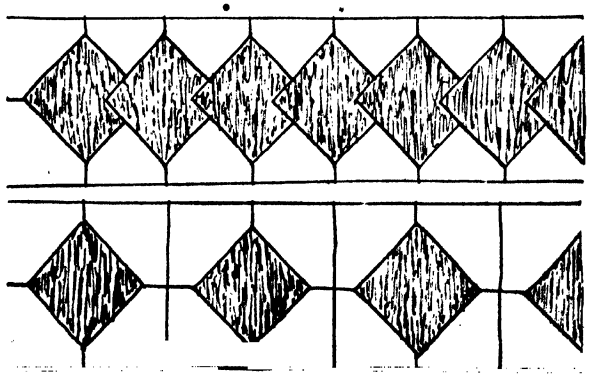


FIG. 35.

Use for number lesson as in preceding exercises; or, cut the sheet into square inches and use the squares in laying designs for mats and borders. (Fig. 35.)

Exercise 4

TO MAKE BOXES OF DIFFERENT DIMENSIONS

Material: stiff paper checked into inch squares.

Dictate: —

Cut to make a 1 by 1 inch box.
2 by 1 inch box.
3 by 1 inch box. (Fig. 36.)
4 by 1 inch box.
5 by 1 inch box.
6 by 1 inch box.
All without covers.

These boxes can be used in illustrating number according to the Speer Method.

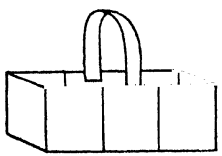


FIG. 36.

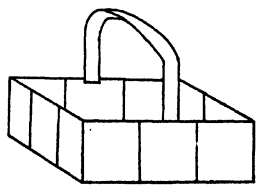


FIG. 37.

TO MAKE A 3-INCH BOX WITH HANDLE

Make as above, and cut a strip for the handle. Paste on. (Fig. 37.)

TO MAKE A 4-INCH BOX WITH HANDLE AND LID

Dictate: —

1. Cut from the checked paper an oblong 5 by 4 inches.

2. Fold to make the box, leaving upper row of checks to fold over for lid.

Any of the boxes can be made by these directions, allowing 2 inches more in length than the completed box is to be; that is, a 4-inch box will require paper 6 inches long, the extra length being needed to make the ends. Boxes may also be made to hold different-sized blocks, and children may help in dictation.

Exercise 5

TO MAKE A MATCH-SAFE

Material: stiff and colored paper, sandpaper.

Dictate: —

Make a 6-inch square of the paper.

Make a 2-inch open box and paste it in the center of third row of square inches in the 6-inch square.

Cut and paste a 2-inch oblong of sandpaper beneath. (Fig. 38.)

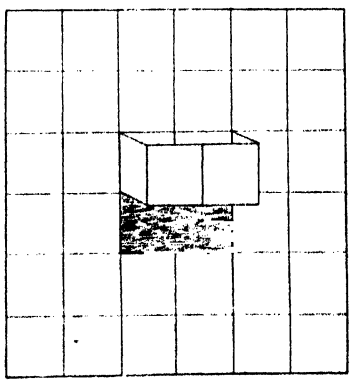


FIG. 38.

Exercise 6

TO MAKE BOXES

Material: stiff paper checked an inch square.

Make boxes 2 by 2 inches on bottom.

3 by 3 inches on bottom.

4 by 4 inches on bottom, etc.

Make boxes any height desired.

The teacher may often make use of the pupils' help in dictation. For example, suppose the size of the box to be made is 2 by 3 by 1 inch.

Child has tablet paper checked in square inches.

Teacher says: "We will make a box to hold a block 2 by 3 by 1 inch.

"How many square inches needed on the bottom of the box?"

Answer: "6 square inches."

"Find this."

"How high is the box to be?"

Answer: "1 inch."

"The size of the paper for this box must be what?"

Answer: "4 by 5 inches."

"Finish box."

SERIES IV

MEASURING AND RULING 2-INCH STRIPS

Up to this exercise the inch, either linear or square, has been the unit of measurement, and the children have become familiar with both. They have also gained some facility in measuring inches with a ruler. They now advance another step, and take two inches as a unit of measure.

Exercise 1

To place by measure dots 2 inches apart at sides of paper and connect with ruled lines.

Use print tablet paper.

Measure either with a 2-inch tablet or with the ruler.

Exercise 2

Material: Print tablet paper measured and ruled into 2-inch rows.

The paper may be used in various ways. For example, lists of words may be written in the rows, as on the following page. Other uses will occur to the teacher, or perhaps to the children. They should be encouraged to use their ingenuity.

A	E	I
at	met	it
mat	pet	fit
hat	let	sit
fat	wet	bit
sat	pen	pit
etc.	etc.	etc.

Exercise 3

After some facility is gained by practice with material easily manipulated, then a different material, not so easily handled, is given, and the exercise repeated. This cultivates dexterity of the hand and develops the judgment.

This exercise is a repetition of Exercises 1 and 2, stiff paper being used instead of the print.

Exercise 4

Border 2 inches wide made of stiff paper and ornamented with inch squares of colored paper may be made. (See Fig. 35.)

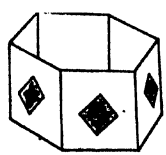


Fig. 30.

Napkin rings may also be made and decorated in the same way. (Fig. 39.)

This exercise admits of many pleasing variations.

Another article which may be made is a booklet with pages 2 inches square.

For cover, use stiff paper 2 by 4 inches.

Fold to form a double 2-inch square.

For pages, use print or any thin paper, fastened in with a stitch of colored worsted or cord.

Exercise 5

FREEHAND CUTTING

Freehand cutting from 1 and 2-inch strips of any kind of paper makes an interesting and useful exercise. Some articles which may be cut are suggested below. (Figs. 40 and 41.)

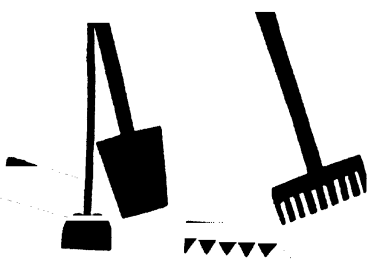


FIG. 40.

FIG. 41.

SERIES V

MEASURING AND RULING 2-INCH SQUARES

Exercise 1

Measure and rule paper in 2-inch squares.

Use in various ways. (See Fig. 42; see also Fig. 34.)

Exercise 2

Material: Stiff paper measured and ruled, as in previous exercise.

Make use of all the left-over material, to teach economy.

Use in constructive work, such as making chairs, bureaus, tables, etc., as in Series I and II.

Exercise 3

TO MAKE A BIRD CAGE

This exercise should be class work, the dictation being partly oral and partly indicated on the board.

Materials: Folding paper checked in 1-inch squares, scissors, needle, worsted.

Dictate: —

Cut a strip 6 inches long and 2 inches wide (for sides of cage).

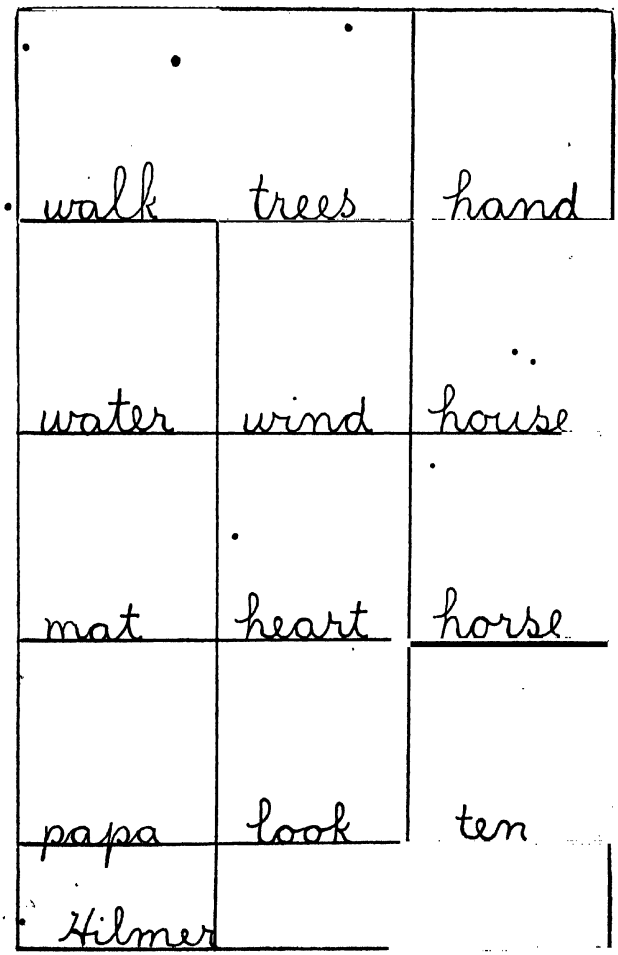

walk
trees
hand
water
wind
house
mat
heart
horse
papa
look
ten
Hilmer

Fig. 42.

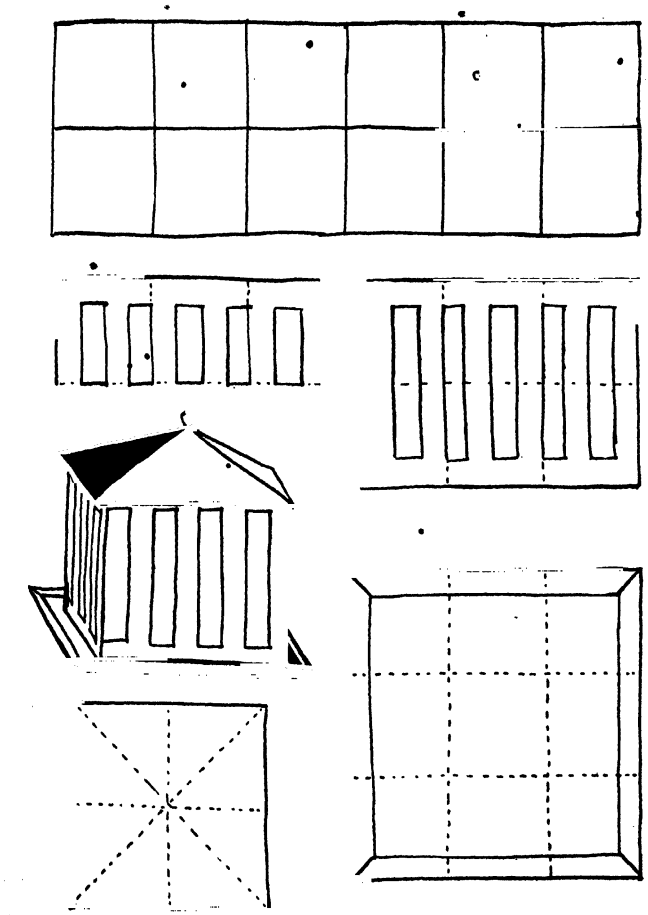


Fig. 43.

Cut a 2-inch square. Fold diagonals (for top of cage).

Cut a 3-inch square. Fold up $\frac{1}{4}$ inch on each side (for tray of cage).

Fold the strips through the middle lengthwise. Slash as for lantern. Cut out every other fold. Open.

Fold the strip again crosswise into two equal parts. Crease. Fold each part again. Crease (for sides of cage). Fasten together with worsted.

Fasten sides to the bottom of tray with worsted. Use needle. Show how. Draw a loop of worsted through the center of top at intersection of diagonals. Fasten top to sides; ends of diagonals to corners with worsted. (Fig. 43.)

SERIES VI

DRAWING AND CUTTING CIRCLES

Exercise 1

Practice at first by drawing around 1, 2, and 3-inch circular plinths or tablets, and cutting out until the children are able to cut out a smooth circular line.

Follow with practice in drawing and cutting circles 2, 3, and 4 inches in diameter.

In drawing the circles, use a circle marker, or place dots to measure and draw freehand, giving the following directions: —

To draw a 4-inch circle,—

Place a dot on the paper.

Place a dot 2 inches above the first dot and in a line with it.

Place a dot 2 inches below the first dot and in a line with it.

Place a dot 2 inches to the right of first dot and in a line with it.

Place a dot 2 inches to the left of first dot and in a line with it.

Place the pencil on the lowest dot, and draw to the left and around through each dot without changing the position of the hand.

TO MAKE A CIRCLE MARKER

Take a strip of paper 1 inch wide. Beginning ½ inch from the end, mark it off into inches and half inches.

Fig. 44.

To use the marker, put pencil through the middle opposite the first marking; put a pin through the middle of the marker at any desired radius; thrust the pin through the drawing paper and move the pencil around to draw the circle. (Fig. 44.)

TO MAKE A PICTURE FRAME

Take an oblong or square, any size, of stiff paper. In the center mark out a circle any size to suit. Cut out circle. (Fig. 45.)

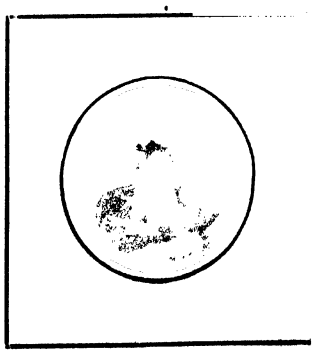


Fig. 45.

TO MAKE A CLOCK

Materials: stiff paper for the face, colored paper for the pendulum, black or colored paper for the hands, worsted or cord.

With the circle marker draw a 6-inch circle. Inside of this circle draw a 3-inch circle. In the ring so made write the

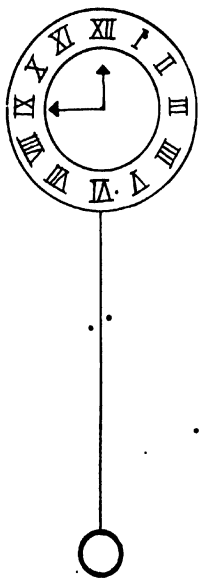


Fig. 46.

letters for the hours about 1 inch apart. Cut the hands in arrow shape, — the hour hand 1 inch long and the minute hand 2 inches long. Paste on.

For the pendulum, cut two circles 1 inch in diameter, of colored paper, and paste between them one end of a cord or worsted 12 inches long.

Attach the other end of this cord, by pasting or sewing, to the center of the back of the clock.

Make a loop of the cord, — any length, — fasten at "XII," to hang the clock by. (Fig. 46.)

Learn "Hickory, Dickory, Dock."

Exercise 2

TO MAKE A WIGWAM

Material: Any kind of paper.

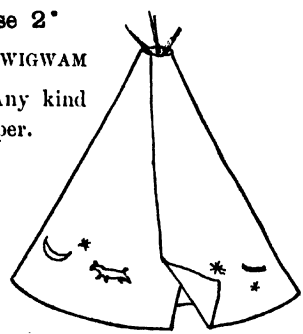


Fig. 47.

Dictate: —

Make a 6-inch circle.

Cut it into halves.

Take one half; double it.

Cut a small half circle around the point. Open.

Lap the ends and paste down about two inches.

Turn the loose part back to form flap. (Fig. 47.)

TO MAKE A CALLA LILY

Make and fold a square of white paper as for scissors holder. (See Fig. 20.)

Do not paste.

Cut from yellow paper a strip 4 inches long and $\frac{1}{2}$ inch wide.

Cut one end oval shaped. Paste the other end of this yellow strip inside of the folded corner of the white square.

Paste the flaps of the square together.

Cut a strip of light green paper 1 inch long and $\frac{1}{2}$ inch wide.

Fold lengthwise in two, making it $\frac{1}{4}$ inch in width. This will make the stem.

Place the lower end of lily between the folds of green paper, and paste. (Fig. 48.)

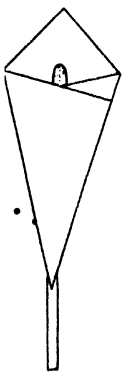


FIG. 48.

SERIES VII

CIRCLES AND STRIPS COMBINED IN MAKING BOXES

Exercise 1

TO MAKE A CIRCULAR BOX WITH LID AND HANDLE

Materials: stiff paper, pencil, scissors, worsted, needle.

Dictate: —

Draw and cut two 3-inch circles.

Cut a strip 1 inch wide and 11 inches long.

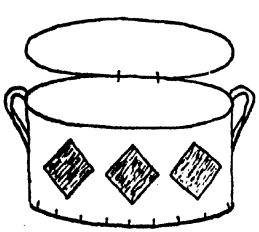


Fig. 49.

Cut a strip $\frac{1}{2}$ inch wide and 11 inches long.

Fasten the 1-inch strip to one circle to form box.

Paste the $\frac{1}{2}$-inch strip to sides for handle.

Use the other circle for top of box.

Use worsted to fasten sides and bottom together.

The box can be ornamented with simple designs drawn with colored crayons or water colors, as suggested in the accompanying illustration (Fig. 49). This will give the children an opportunity to exercise their taste and ingenuity.

Exercise 2

TO MAKE A CIRCULAR BASKET WITH LID AND HANDLE

Use stiff folding paper.

Dictate: —

Make a $3\frac{1}{2}$-inch circle slashed in $\frac{1}{2}$ inch to make flaps.

Make a 3-inch circle.

The first circle is for the bottom, the second for the lid.

Cut a 2-inch wide strip for the sides.

Cut a $\frac{1}{2}$-inch wide strip for the handle.

How long must we have the 2-inch strip?

Let children exercise their judgment in the matter.

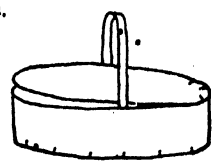


FIG. 50.

Sides of basket may be ornamented with 1-inch squares of colored paper, with pencil or water color, etc.

Put basket together by pasting the flaps of the $3\frac{1}{2}$-inch circle to the sides. (Fig. 50.)

SERIES VIII

MEASUREMENTS WITHOUT AIDS

Up to this point the children have made everything by use of the squares or checks. Now they are to learn to do without these aids, and use outside measurements only.

TO MAKE A LETTER CASE

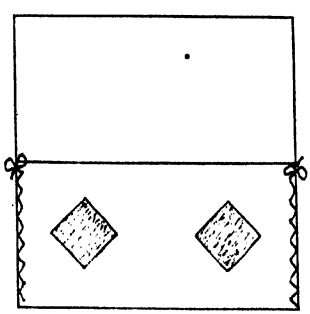


Fig. 51.

Cut paper 6 by 9 inches, or 6 by 10, if cap is desired.

Dictate: —

Place vertically on desk.

Place dots $3\frac{1}{2}$ inches above lower corners.

Mark them *A* and *B*.

From *A* and *B* fold paper up.

Tie sides with raffia, or, if laps are allowed at sides, paste. (Fig. 51.)

TO MAKE AN ENVELOPE

Size of paper, 7 inches by 7 inches.

Dictate: —

Place dot on lower edge 2 inches from lower right corner.

Place dot on lower edge 2 inches from lower left corner.

From these dots draw upward a line 1 inch long.

From these dots draw a horizontal line to right and left edges.

Cut out this oblong.

Do same with other corners. (Fig. 52.)

Fold right and left sides, and paste.

Fold lap.

Round the corners, and paste.

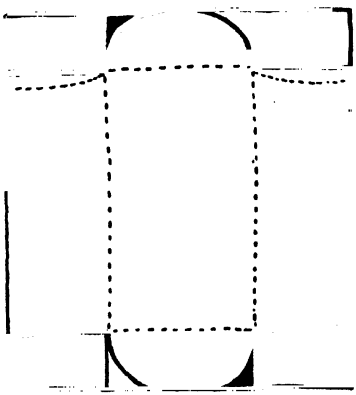


Fig. 52.

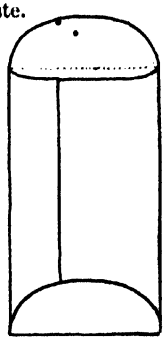


Fig. 53.

Round out upper part of envelope to give space. (Fig. 53.)

TO MAKE A COMB CASE

Back of Case

Dictate: —

Draw a line 8 inches long at lower edge of paper (or use lower edge). Name ends of line *A* and *B*.

Place dots at each end 2 inches above this line. Name *C* and *D*.

Place dot in middle of *AB*.

Place dot 4 inches above this dot. Name *E*.

Connect *B* and *C*. Connect *E* and *D*.

FRONT OF CASE

Cut strips 2 by 8 inches long.

Tie with raffia to back of case at *A*, *B*, *C*, *D*.

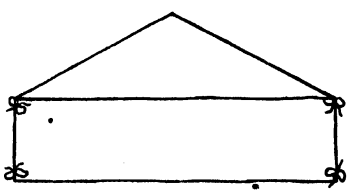


FIG. 54.

This may be made with laps like portfolio, then pasted together. (Fig. 54.)

TO MAKE A TRAY

Cut to measure, without checking, in square inches.

Use any measure desired.

Paste simple designs of squares or circles in color in bottom of tray.

By this time the children will have acquired considerable facility in measuring and cutting and will delight in making things of their own at home, if it is suggested to them and they are encouraged to do so.

Some of the things which will now be within the children's power to make unaided are: —

Doll's Tam o'Shanter cap; of cloth (made over stiff paper).

Doll's apron.

Doll's sunbonnet.

Doll's sled.

Doll's wagon, etc.

They may be made of any material.

FREEHAND ILLUSTRATIVE CUTTING

In the presentation of illustrative cutting, the teacher must first show the children how to do the work and what is desired; but, after giving them the idea, should leave them entirely alone in working out the subsequent exercises — the simple direction: "Take scissors and paper and cut the story of ——," being all that is needed. (Figs. 55 and 56.)

There will be sufficient help and stimulus in simply calling the attention of the class to the more successful and original work they have themselves accomplished. (Fig. 57.)

The object of this exercise is not to make illustrations, but to test the children's comprehension of what they have read or have heard, to cultivate the imagination, bring forth originality, and to give hand training. (Fig. 58.)

The first exercise should be very simple. Suppose the little jingle, —

"Pussy-cat, pussy-cat, where have you been?"
"I've been to London to see the queen."
"Pussy-cat, pussy-cat, what did you there?"
"I frightened a little mouse under the chair,"

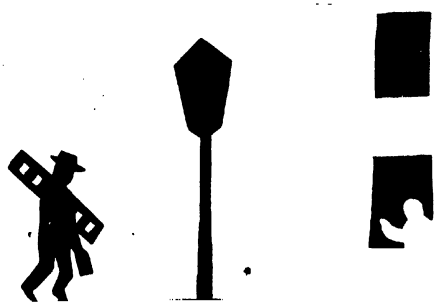


Fig. 55.

Fig. 56.

Fig. 57.

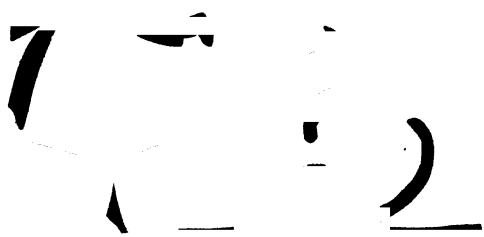


Fig. 58.

is selected for the first attempt. The teacher should take a piece of blank paper about 6 by 9 inches in size, and cut before the children, talking as she does so: "Here is the pussy who went to London." "Here is the queen." "Oh, yes, she must have a crown!" "Oh, yes, a chair and the little mouse," etc. Then the teacher puts her paper away and lets the children make a trial. After a few lessons of this kind, the children

Fig. 59.

will be able to work independently, and soon will illustrate or picture their lessons in reading, language, literature, nature, etc. (Fig. 59), in a manner quite astonishing to those who are unacquainted with this kind of work. Moreover, they will never tire of doing it. (Fig. 60.)

In the beginning of freehand cutting, children delight in making rows of figures, as paper dolls, animals, soldiers, etc., and should be allowed to do so freely. (Fig. 61.) Freehand cutting from objects is also a valuable exercise.

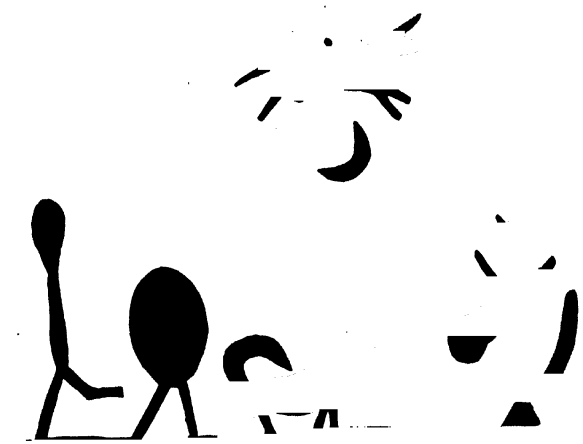


Fig. 60.

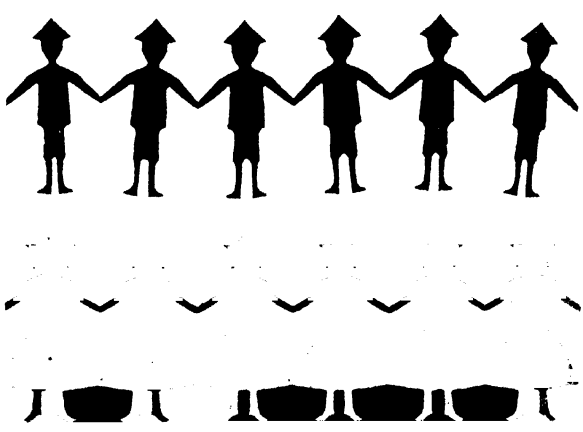


Fig. 61.

POSTERS

There are two ways of making the posters; one, by using a flat wash of water color, and another, by cuttings from colored paper pasted on to form the picture. The first method is too difficult for primary classes, but the second is within their power to execute. The first attempt will be crude, but if a good selection of colored paper is placed in the children's hands, and attention given to the harmony of color, good effects may be produced. Any colors may be used so long as they harmonize. The teacher should illustrate on the blackboard as she dictates to the class, for this work can be done from dictation, remembering always that it must be very simple.

After a while the children, or some of them at least, may be able to make a poster illustration entirely of their own.

In working before the class the teacher will speak of the principles of perspective in this way: —

"The tree that is nearest to us looks larger to us than the one farther off; just look at the trees down the street. So we will cut this one in front the largest." "When you look away down the road, how does the street look to you?" "The street looks broader right by us than it does a long way off; so we will make our road broad here and let it grow narrower as it goes way off, — up the hill, to the house," etc.

The actual work will be done in the following manner: Suppose the lesson is to be the making of a simple landscape — the sky, a road, a hill, a tree.

FIG. 62.

Give each child a sheet of blue paper 8 by 8 inches for the foundation; a sheet of green, one of yellow, and one of dark purple.

Dictate: —

Take the sheet of green paper.
Measure up 5 inches on the left side, place a dot.
Measure up 2 inches on the right side, place a dot.
Draw a line freehand, connecting the two dots.

Cut along the line. (The line should be irregular in form.)

Paste this cutting on the lower part of the blue paper. This makes the ground and hill.

FIG. 63.

Let the upper part of the blue paper be the sky.

Take the yellow paper.

On the right hand, at the bottom of this sheet, measure off 2 inches.

Place dots.

On the left side of the paper measure up 3 inches.
Place dot.
Place another dot $\frac{1}{2}$ inch below the first.
Connect, with slightly waving or zigzag lines, the dots on the lower edge with the two on the left side.

FIG. 64.

Cut along these two lines. This makes the road.
Paste the road in position on the green paper.
Cut from the purple paper an oblong 3 by 4 inches.
From this oblong cut or tear a tree.

FIG. 65.

Paste on green paper close to the right side of the square, and half an inch down on the blue paper. (Fig. 62.)

A very simple picture to begin with is a sailboat on the water.

Take an oblong of blue paper about 2 by 5 inches in size; paste it on a background of gray, leaving a margin of $\frac{1}{2}$ inch.

Cut freehand a little white sailboat, and paste it in position toward the bottom of the oblong.

From small beginnings like these, this work may grow until very beautiful and effective pictures can be made by the children.

The teacher can make good use of this kind of work herself by making posters about two feet square to illustrate different subjects taught in the school; and if arranged over the blackboard she will find them to be very decorative to the room, as well as a help in fixing points in the minds of the children. (Figs. 63–65.)

WORK IN CLAY

Frequently in the country there may be a convenient clay bank, from which the clay can be obtained for school use, but city schools will have to depend on the school supply stores.

Before being fit for use, the clay must be softened and kneaded into the consistency of putty. This will take several days, but after it is softened it can be kept so for a long time by keeping it covered with a dampened cloth.

Mold it into brick form — 4 by 8 inches is usually a convenient form to use in school, as then it can easily be cut into portions for the children.

Probably clay will not be used oftener than once in a week or two, and so it will not be a great matter to have it prepared either by the janitor or some of the older boys.

When using clay, each child should have a piece of oilcloth to cover his desk.

The child can mold from the clay, fruits, vegetables, leaves,

animals, kitchen utensils and stove furnishings, cups, saucers, pitchers, bowls, and many other things.

Be careful to have the shaping of round objects done with the fingers and not rolled in the palm of the hand; and if hollow, molded from the inside.

All of the clay work should be done with the fingers, and by the building-up process, — that is, beginning with a very small portion, add the clay, little by little, and work it thoroughly in as the object is shaped. Moisten each piece as it is added.

USE OF THE SAND TABLE

It is well to have a sand table large enough for the entire class to work at at the same time; but a small one where two or three can work together, the other children looking on and awaiting their turn, will answer.

In any class exercise every child, if possible, should have an opportunity to work.

For many uses the sand should be slightly dampened.

A Practical Illustration of the Use of the Sand Table in a Reading Lesson

After the children have read, say, "Jack and Jill," send them to the table to "make the story," that is, to picture the story as *they see* it.

Each child should make his own hill after his own conception, also Jack and Jill and the pail. These, Jack and Jill, the children should place in the sand to represent any part of the story they choose.

The boy and girl and pail may be cut out of paper, or little dolls and a toy pail may be used.

The children may then go on and elaborate the story to take in the home of Jack and Jill, making the house and placing it where they think the home should be.

Don't be afraid to let the children work out their own ideas and give their imagination full play, for the first object of the exercise is to show the child's conception of the story, and the second, to call forth his imagination.

The sand table may be an admirable adjunct to any lesson, and to city children, who seldom or never see the country, there is no school work that can compare with it in giving them true ideas of the country and country life.

Let a farm be made on the table, making hills and valleys, a brook, a lake or a river, the woods, the fields fenced off into meadow, pasture, grain fields. Make the farmyard and barn and the farmhouse.

Use toy animals to represent the cows, sheep in the pasture, and barnyard hens, chickens, etc.

Make a country road.

A load or two of sand in the school grounds, in which at recess the children can play and make all they desire, is a great source of enjoyment to them, as well as a means of giving a clearer apprehension of what they may be doing in the schoolroom. And sometimes a class can be taken right out there to work out a lesson, and so the children learn in the right way, — through play. "Play is the business of childhood."

THINGS TO MAKE FOR SPECIAL DAYS

Thanksgiving Day

The first Special Day that the little primary children are especially interested in is Thanksgiving; and all the school exercises for a month, through the study of fruits, vegetables, grains, and of the harvest, including also the story of the coming of the Pilgrims and the landing at Plymouth Rock, have been leading up to that day. And all through this time, as each idea is developed, the children should work it out in paper folding or cutting, according to the plans before presented: by molding in clay or on the sand table.

For example, they may mold with clay: ears of corn; grains of wheat; vegetables, as potatoes, turnips, onions; fruits, as apples, plums, and peaches.

They may cut or draw a turkey and color it with crayon or with water color. Cut or draw a fish.

A most interesting exercise is to cut or draw a Thanksgiving party, not forgetting the Indians.

Children will be greatly interested in making wigwams, according to pattern given in Series VI, and also in making canoes. Wigwams may be made of paper, but if birch bark can be had, use that.

From paper, fold, cut, or draw a ship; call it the "Mayflower." Of clay, mold Plymouth Rock.

Cut freehand the Pilgrims — man, woman, and child; making use of the Puritan hat, kerchief, collar, etc. (See Series I.)

Make from paper, a cradle for little Peregrine. (See Series I.)

Picture the story of the Pilgrims on the sand table. Use a good-sized piece of looking-glass for the sea. Place a ship upon it. Put little stones along the shore — one to be named Plymouth Rock. Cut trees without leaves, or use dry twigs to represent a forest. Cover sand with salt or cotton batting to represent snow. Have some Indians among the trees, and Pilgrims on the sand.

Cut picture of the Pilgrims going to church — the man carrying a gun.

Such a lesson as this, which is intended to teach history, should be worked out under the direction of the teacher. It should grow from day to day until the complete story is made vivid. It must become a real thing to the children, and will, if it is properly presented, so making a good basis for later study of history.

Christmas

For Christmas there are many things which children can make for gifts to parents and playmates and for the decoration of the schoolroom and Christmas tree. The children can easily make boxes and baskets, either square or circular, from the mechanical plans heretofore given, and fill them with candy and pop corn. They can make little booklets, too, the covers being of bright-colored paper, and containing on the leaves some stanza they have learned at school, such as, for instance: —

"Once there lay a little baby,
Sleeping in the fragrant hay;
And this lovely little Stranger
Brought our first glad Christmas day."

Or the covers can be made of gray paper with a bright red star pasted on the upper corner, with "Merry Christmas" below. Tie the little booklet with red ribbon.

Book marks, cut from stiff white paper, and ornamented with a Christmas tree in water color or crayon, also make pretty and simple gifts.

Another simple and pretty gift would be sachet bags woven of strips of colored paper in pretty combinations.

Cards cut in any shape, ornamented with a spray of holly and with a simple Christmas greeting, are also good.

Bells cut from red paper and strung upon raffia, make pretty decorations.

With their 1, 2, and 3-inch circles as patterns, the children can make beautiful pen wipers, using cloth or any material suitable.

Needlebooks from the pattern in Series I can also be made.

Enough time should be taken for the Christmas work to have the gifts well and thoughtfully made. At least two weeks should be given to the preparation of these gifts, if we desire the true Christmas spirit to pervade the work. The making of these little gifts, and the necessary talks accompanying them, should create an atmosphere of love, joy, and peace. The children's thought should be concentrated on the love expressed in the gift and the joy of giving, and not upon the beauty or value of the gift.

"Not what we give, but what we share,
For the gift without the giver is bare.
Who gives himself with his alms feeds three, —
Himself, his hungering neighbor, and Me."

NEW YEAR'S DAY

Calendars made on the checked paper would be appropriate. (Fig. 66.)

Throughout the year the children can rule and check the paper required for their monthly calendars, having something

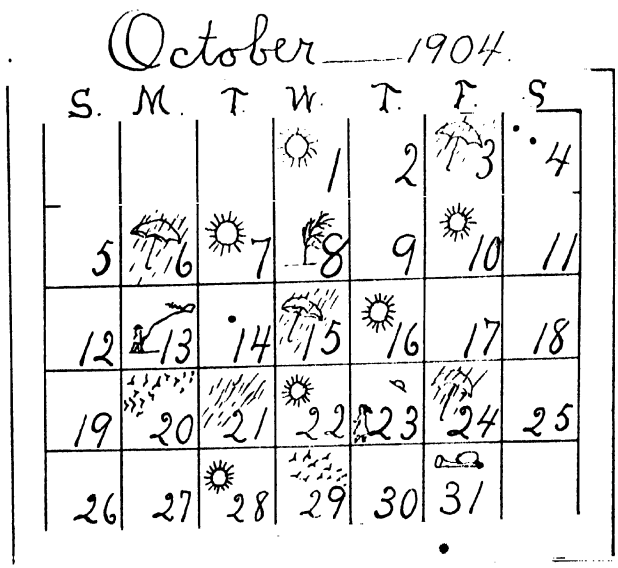


FIG. 66.

typical of the month drawn or cut freehand, and pasted on each. These calendars may be very beautiful, and some of the teacher's own work should be on the wall before the

children. It should be left on the wall until the entire year is shown.

If the children are too young to make the calendars themselves for the New Year's gift, purchase the little printed ones, which can be had for a cent apiece, and paste on an oblong or square of cardboard, using either those cut out by the children to definite size, or those which come for this purpose.

The children may be able to make with water color or colored crayon little winter landscapes, or some simple little figures for decoration, which should be pasted above or below the calendar.

Little Chinese or Japanese children, cut after a pattern furnished by the teacher, the dress colored according to the Oriental custom,—the little Chinese with their shaved heads and long braids, and the little Japanese with their umbrellas,—make a unique decoration; and incidentally teach some geography.

If the children are mature enough, as in an upper primary class, to do the work well, instead of cutting the little figures and pasting on, they can trace them on the calendar itself, and then color as before.

Washington's Birthday

This is one of the days in which the children delight. Have them cut the story of the cherry tree in full from plain print paper and mount on colored paper. They may cut cherries from red and black paper, making the stems of green, and also mold them in clay, inserting a wire to simulate a stem. Let them cut the story of the pony and mount that also.

They can in this manner portray any suitable incident in the life of Washington that the teacher gives them.

This is a good time, too, for the children to make a flag, by cutting the thirteen stripes (being careful to have the correct number of each color and to place them in their proper order), the blue field, and the thirteen stars.

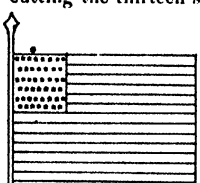


FIG. 67.

Paste the stars on the field, and then paste field and stripes on some mounting paper; any paper will answer for mounting, if it is somewhat stiffer than that of which the flag is made.

The size of the flag may vary, but one 4 by 6 inches is convenient. The flags may be pasted or glued to little sticks.

If this is done, be sure to see that the field or "union" is at the top. Tell the children why. Also let them know why we have thirteen stars on some flags and more on others; and why there are thirteen stripes on all. (Fig. 67.)

Soldier caps never fail to charm, even if made from newspaper, but they are especially pretty if made of white or brown paper and trimmed with a red, white, and blue cockade. (Fig. 68.)

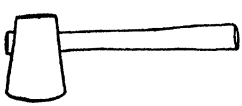


FIG. 68.

FIG. 69.

For little souvenirs of the day, hatchets cut from a pattern are pleasing and simple to make (Fig. 69); also red, white, and

blue badges, made of circles laid one upon another, with little streamers of the three colors attached.

Lincoln's Birthday

At the sand table let the children make a log cabin in the woods. Let them decide how large the cabin shall be, and gather and cut to measure twigs or even small branches to build it of. No matter how rough and unfinished it may be, it will give the children an idea of the early home of Lincoln, and that is all that is desired.

They can make illustrative drawings or cuttings of some of the incidents of Lincoln's boyhood, as, of his learning to read by the firelight, chopping down trees and piling firewood, and of his later life, as making a "stump speech."

Butterworth's "Life of Lincoln" gives a number of incidents of his boyhood, which will be of great interest to children.

A raft can be constructed, using small sticks or good-sized twigs, binding them together with raffia, cord, or leather shoe string. Fasten on the raft the poles to push it along.

Memorial Day

For this day about the same things may be made as for Washington's Birthday in the way of flags, badges, and soldier caps.

The children may also cut, draw, or paint, from memory, a company of little soldiers who have marched with caps, guns, drums, and flags before their admiring eyes. (Fig. 70.)

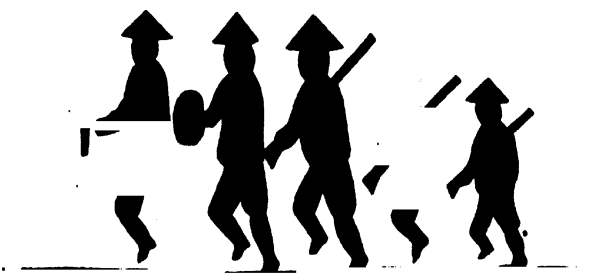


FIG. 70.

ST. VALENTINE'S DAY

For valentines the very little children may cut heart-shaped cards from red or white paper and simply mark, "My valentine," "My love to you," "I love mamma."

FIG. 71.

A little booklet can be made a pretty Valentine's Day souvenir, by pasting on the cover a little figure. A boy or girl standing on tiptoe and posting a valentine in the letter box, or a postman carrying his bag, would be interesting. (Fig. 71.)

To make another kind: —

Take a 4 by 8 sheet of any desired paper, fold into booklet 4 by 4. Place on the desk with fold at the left. Place a

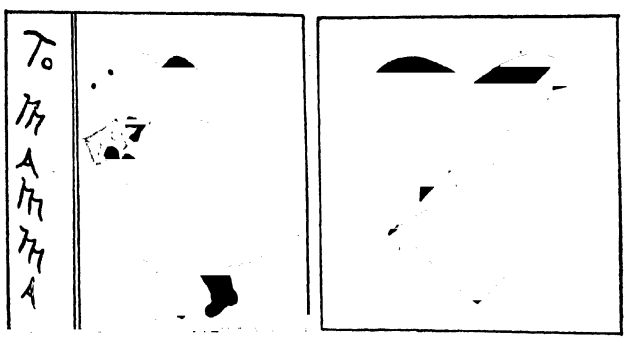


Fig. 72.

pattern of a heart upon the cover, leaving a margin of ½ inch, and trace with pencil.

Open cover and cut along the tracing. On inside of other half of cover, paint, draw, or paste in a simple little picture.

Underneath picture write a little message of love: "I send my love." (Fig. 72.)

For room decoration, red and white hearts threaded alternately upon raffia, and festooned about the walls, are quite effective. (Fig. 73.)

These hearts can be first traced, then cut; or the cutting may be freehand, according to the ability of the class and the use to which they are put.

If to be traced, the teacher should make a number of patterns from stiff paper, enough for the first row of desks, say, and the

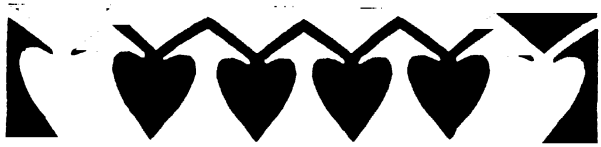


Fig. 73.

children can pass them to each other as soon as each one finishes his tracing. Or, if it is desired that the hearts be made by free-hand cutting, the teacher should make one large pattern, and place it where it can be seen easily by every child in the room. These hearts can be cut from the one and two inch squares.

Making valentines for a school valentine box will delight the children, if the teacher manages it so that each child receives a valentine; if she does not do that, it would be better to have none.

A good way is to have no valentines in the box but those made at the proper time, as a school exercise, and only one for a child. Have a list of the children's names on the blackboard, and as a valentine is made for each child, cross off his name. Even then it will be well to have half-a-dozen valentines in reserve to fill out with if any error has been made.

Bird Day and Arbor Day

Cutting of different trees from sight and from memory, and writing the name upon each, will serve the twofold purpose of interesting the children in the formation of trees, by quickening their observation, and making them familiar with the names of the common trees.

Do the same with the buds the children are seeing now, also with the birds.

Then little calendars and booklets that the children are probably now making may be decorated with simple spring landscapes, in water color or colored crayon, and with budding twigs, spring flowers, sprouting seeds, birds, etc.

Easter

For Easter make the Easter lily, as given in Series VIII.

Make Easter baskets and boxes on the plans given in Series I and II, changing the decorations to suit the occasion.

Egg-shaped cards may be made, using a pattern, and cutting from purple or white cardboard, or any other moderately stiff paper. Instead of buying the colored paper, the children can tint the paper with their water colors.

Draw rabbits—they will make pretty gifts. Look up the story of the rabbits in connection with Easter. It will amuse the children. Also tell them of the egg-rolling custom on the White House grounds at Washington.

Sometimes it is possible to let children bring cooked eggs to school and there decorate them with water color.

Drawings, paintings, or cuttings of the cocoons that have been in the room all winter, and of the emerged moth or butterfly, if you should be fortunate enough to have one or two, are especially appropriate and beautiful for Easter cards or mementos. (Fig. 74.)

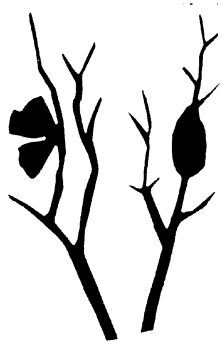


Fig. 74.

THE PLAYHOUSE

What is the object of the playhouse in the schoolroom? It is to play life, — to give insight into home keeping and home making.

All children are interested in make-believe; therefore, besides being interesting, the playhouse may be educative. Who has not experienced the pleasures of the playhouse?

Let us become as little children and enter into the sport of playing life, for only as a little child may we enter into the mind of the child and show him the meaning of things.

We will suppose that the teacher has decided to have a playhouse as a foundation for a part of the general plan for information lessons, extending at least through a term.

In these talks children should consider materials used in building houses, learning how they are obtained. They should visit stone quarries, brick kilns, and lumber yards, if possible.

The teacher plans trips to these places of interest, occasionally taking a part of the school time to do so; going, we will

say, the last part of the afternoon. This is perfectly legitimate, because children are gaining information and will have something of vital interest to talk over and write or read about in the days to follow.

If the room is advanced primary, the children will, of course, see more, and be able to understand more, than the beginners.

These outside trips are a most valuable introduction to the geography work; in fact, are real geography. This is apparent where the trip is to a commission house, to gain information concerning the shipment of food stuffs.

The playhouse in the schoolroom; what is it? Let us say, in the beginning, it is a wooden box about 30 inches long, 20 inches high, and 10 inches across. (Fig. 75.)

The janitor, or some one of the older children, will gladly divide it into rooms; three downstairs and two upstairs, with a space 6 inches wide between them for the hall and bath room.

The children will decide that the three rooms downstairs are kitchen (about 8 inches by 8 inches), dining room (10 inches by 8 inches), living room (12 inches by 12 inches). If desired, stairs may go up from the dining room into the middle space, designed for the upper hall and bath room.

All that the child has learned in the preceding mechanical plans for making things is of practical use to him now in furnishing his house. Boys as well as girls will enjoy this.

The manner of furnishing should be suited to the ability of the children. Very young children will probably best furnish the playhouse by means of the paper-folded furniture and strip-woven mats. Older children may furnish it by the check-work

plan. Still more mature children may use such material as raffia and wood for furniture and yarn or raffia for mats.

The teacher selects for her children the plan of furnishing best suited to them; that is, the whole house may be furnished with the paper-folding, or the check-work furniture, or furniture made by definite measurements, or wood and raffia furniture, or by a combination of all.

Perhaps before any furnishing is done, the walls of all the rooms are considered, or this may be done in connection with the furniture making; and thus, as the days go on, the children are designers of paper, paper makers and paper hangers, also furniture makers and carpenters.

At all times the teacher enters into the spirit of this play life, and thus the children are, through play, living a real life, and, at the same time, are gaining information, using judgment, and learning to use the essential tools of life; namely, the "three R's," — "Reading, Riting, and Rithmetic."

Just here let it be said that as much reading as can be comprehended should go hand in hand with all making, for, as the desire to make is strong, there is a motive for reading directions, etc. Hence many board directions should be given for this purpose, to further the reading through desire to make the desired object. Tool No. 2 — writing — is used incidentally, when the child reads writing and especially when he writes what he has seen in trips or tells how he made an article.

To illustrate the different ways in which a playhouse may be furnished, let us consider each of the rooms furnished in a different manner.

Furnishing the Kitchen

Suppose we furnish the kitchen with the paper-folded furniture. We have made, in our general construction lessons, some furniture suited to this room; if saved use it, if not make again. (Perhaps children can make from memory.) Let children decide what furniture belongs in this room, as table, chairs, cupboard, stove. Cupboard may be made similar to bureau. (Fig. 14.) A sink may also be made; see directions for making bowl in washbowl stand. (Fig. 83.)

A stove may be made from box form, folding, or check work, size about 3 by 4 inches. Cut out doors, mark stove holes, make a stovepipe (a roll of paper).

The kitchen utensils may be made from clay or cut from one-inch strips of black paper. Make an ice box or a refrigerator; make on the box form. Get children to judge height, and let them plan for the other dimensions, or let them make freely from folded or checked paper. Having had the work step by step, as given in this book, they will be able to do this independently.

Be sure that the "three R's" are used in all this work; for example, children may, if old enough, write lists of kitchen furniture: —

cupboard	ice box	table
chairs	stove	sink

Lists of kitchen utensils: —

teakettle	pans	toaster	broom
teapot	spider	strainer	dustpan
basins	stew kettle	chopping bowl	wringer

The children should learn to spell the simple words.

They may draw the utensils or furniture on the checked paper and write the name opposite in another check.

For this work with small children, the teacher has a list of words upon the board, and children select the right word to name the picture.

Before doing the above work, there must be, with small children, written board lessons in which the words have been used.

The kitchen cupboard; things in it: —

plates	cups	pepper
knives	saucers	sugar
forks	spices	salt
spoons	flour	fruit
jars	tea	ginger
bowls	coffee	raisins

The refrigerator; things in it: —

butter	meat	berries
milk	vegetables	ices, etc.

As much time as one pleases may be put upon — "Where did all these things come from?"

Older primary grades may here gain much that is fundamental in geography, by visiting commission houses, etc., as has been suggested, to learn about food stuffs. Where from? How reach us? By land or water, and over what routes? Cost of transportation, selling prices? Innumerable problems are the outcome of this work, and they are of such real significance to the child that he sees the sense of work in arithmetic. It becomes real to the child.

Treatment of the Walls of the Playhouse

There should be a general discussion with the children concerning this subject; they should be encouraged to look about them. How are the walls at home treated? How those of the prettiest house they have ever seen?

Kitchen walls, they will decide, are generally painted, or left in the natural way, the same being true in general as to the bath room.

Ask the children to bring samples of paper from home, to visit paper stores, and to learn all they can about papering. Let them make simple designs on paper ruled on one-inch strips (or folded strips) or on the checks. Let us say that the seat work for the morning or afternoon may be entirely given to designing paper for the playhouse. After samples have been brought, and children have gained the idea that they can design, considerable work in designing having been done before on the blackboard, they will delight in working at it.

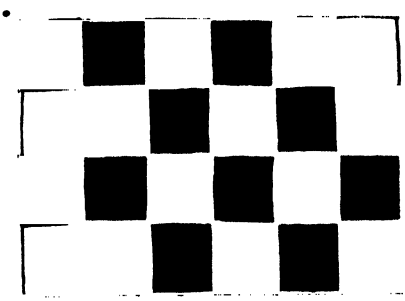


Fig. 76. — Bath Room Paper.

The following will suggest what may be expected: Paper for bath room and hall, bedroom, dining room, or living room. (Figs. 76–79.)

Remember that these samples are only suggestions. The children should not be told what to do; they will be able to give many simple designs. Let them use paints or colored pencils to mark the paper.

As was said, a half day may be given to this work. Give the children four to eight pieces of drawing paper (a half or quarter sheet), and say: "We will be paper makers this morning. You may design the paper you would like for the walls of our playhouse." (Of course children have been helped before, and have worked too on tablet paper and on the board.)

Fig. 77. — Hall Paper.

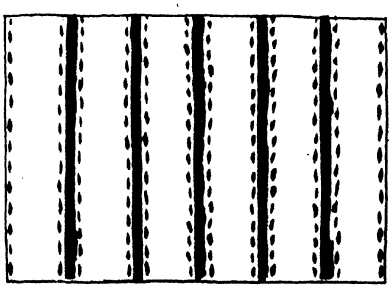


Fig. 78. — Bedroom Paper.

When it is time for a reading class, this work is put away, or left on desk until the children return to their seats.

This seat work that may be continued through a half day or

until recess is desirable. Short, scrappy work, with no significance, except to keep busy, is distracting and pernicious.

If in a primary room, the reading class will probably be given a board concerning the work in hand. It might run thus: —

"We have a playhouse. We are making paper for it to-day. We are paper makers. Who made paper for the bath room? Get your paper, John. —Who made paper for the bedroom? — Get your paper, Mary. — What color is it? —My paper is blue."

Then instead of oral directions, the teacher may write on the blackboard thus: "Go to your seats. — Get your paper. — Get your paints. — Make paper for the playhouse."

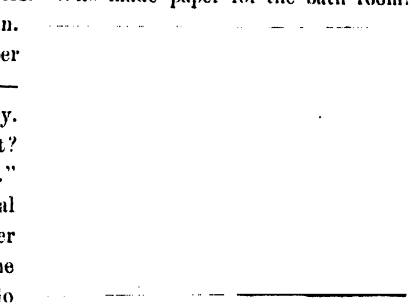


Fig. 79. — Dining or Living Room Paper.

Later the paper for the bath room is collected by itself, and paper for the other rooms in the same way.

If the teacher is wise and uses every opportunity to have children read, she writes upon the board directions similar to the following: —

1. Bring me your paper for the bath room.
2. Bring me the paper for the living room.
3. Mary may get bedroom paper.
4. Put the dining-room paper on my desk.
5. John, pass the paper basket.
6. Put all your things away.

Later the teacher posts the children's work; bath-room papers, let us say, on a large sheet of paper, or pastes it on the blackboard, or in some way arranges to place it before the children. The teacher says, "Now we will play we are at the paper store. We wish to buy paper for our bath room to-day. Let us look at bath-room paper."

Children decide what papers they like best. By vote of hands, perhaps. From these a final selection of one is made. Then, "Whose paper is it?" "John's." "We will buy our paper of John, and John is expected to furnish enough to paper the room." He may have one or two helpers and do this work at another time at a work table, folding or other kind. (It is a good plan to have one or more such tables for group work.) For pay, he may be given one or more extra sheets of paper to use at home, a great pleasure to children in general. He will give a sheet to his helpers.

In a similar way, consider the paper for the other rooms. The ceilings may be papered with a plain tint to match the walls. The borders may be 1-inch or $\frac{1}{2}$-inch strips of a darker shade.

Calculations are made for the amount of paper needed. Probably large sheets of drawing paper will be used. How many sheets are needed? Later, plans are made for paper hanging. This work may be done before the class, three or four having been selected as paper hangers, or it may be done by these children out of school hours, with the teacher's help, of course.

Have we observed that the above calculations have to do with number? This is one of the "three R's" that we aim to

teach, by making it a tool instead of an end in itself. Learning arithmetic has not been the end of the above, but in living his little life, making his playhouse, papering and furnishing it, the child is learning to calculate. We saw how, by taking advantage of a necessity, he may make or do something.

Reading and writing are being taught in the same way.

Furnishing the Bath Room

Bath Tub

Suggestions for Making. — Paper checked by 2-inch plan.

Cut paper, as for a box. Bottom 2 by 4 inches, sides 2 inches.

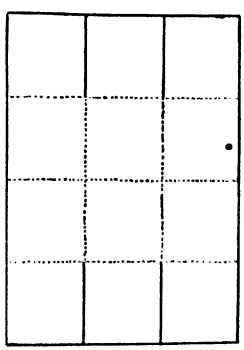


Fig. 80. — Diagram of Bath Tub.

Cut vertically — the two slashes at each end are for laps. (Fig. 80.)

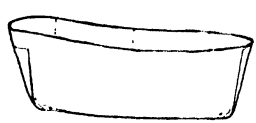


Fig. 81. — Bath Tub.

In pasting laps, spread to make flare of the tub; crush the corners in a little. (Fig. 81.)

Washbowl Stand

Paper ruled in 2-inch strips the narrow way. Size 6 by 8 inches.

Fold on the lines.

On long side slash each line 2 inches. (Fig. 82.)
Form a three-sided stand.
Paste.
The double check where pasted forms the back, and the other two checks may be pushed down to form the bowl.

Cut out legs if desired. (Fig. 83.)

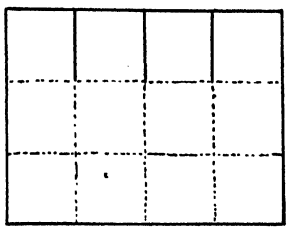


Fig. 82. — Diagram of Washbowl Stand.

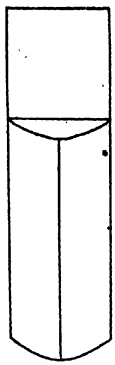


Fig. 83.

Furnishing the Dining Room

Let us make the furniture for the dining room from cardboard or manila tag.

The children should decide what is needed to furnish the room : —

dining table	sideboard
chairs	small table

The dining table may be made any size desired, by ruling paper in 1 or 2 inch squares. Also the chairs and the small table or stand may be made in this way.

The children are able now to invent. Consider the height of furniture suitable, and let the children play they are cabinet makers and make as they please, after they have looked about at home, in homes of friends, and in stores.

All furniture will be made on the box form, but chair backs and legs may be cut out to suit the taste of children.

To give an idea for making sideboard, see directions below.

Sideboard

Check paper by 2-inch plan.

Make, as for box with lid, 4 by 4 inches on bottom; sides 2 inches.

The lid of the box is the back of the sideboard.

A portion may be folded down to make a shelf.

The open part of the box is the back of the sideboard.

The front of sideboard may be marked into drawers and doors.

Doors may be cut to swing out.

Treatment of Floors of the Playhouse

The children should be led to observe the manner of treating floors at home and elsewhere.

Many little ones live in very undesirable homes, with one or two rooms, and know but little of any other way of living. Beginning where the child's interest centers, these lessons tend indirectly to broaden his environment and to uplift his ideals.

After the children have made their observations, it will be decided to leave the kitchen floor of playhouse untouched, so it can be frequently scrubbed.

The floors of dining rooms, the children will find, are of hard wood or painted or stained pine, and generally there is a rug under the table.

The floors of the other rooms are also generally covered only with rugs. Let this manner of furnishing be commended, as it is the most wholesome.

Rugs

Now the matter of rugs is to be considered.

Lead the children to talk of the different kinds of rugs used at home. They may also visit the stores.

It is very interesting to make a little study of Oriental rugs, if the teacher feels so inclined. Here is an opportunity to take all or part of the children to a particular store where such rugs are displayed, or the children may meet the teacher at the store at a given hour on Saturday.

Let us look into the matter of primitive rug weaving.

What material was used?

How were the rugs made?

What was the loom?

Shall we play we are these people making rugs?

Let children try to make looms at home, that is, as many as are interested. Then show them a simple way of making looms for doll-house rugs. (Fig. 84.)

Cardboard Loom

Material: back of tablet, ruled, lines $\frac{1}{2}$ inch apart.

On each line, $\frac{1}{2}$ inch from each end, place a dot.

Perforate on the dots. Thread with cord or yarn.

A rag carpet, woven on a loom like the above, would make

a suitable rug for dining room. Silkaline cut in 1-inch strips on the bias is very pretty.

For the sitting room a similar rug may be made from carpet yarn or carpet ravelings, and for the bedroom a raffia mat or one made from ravelings from gunny sacking.

Smaller rugs may be made for the bedroom, playroom, hall, and bath room, on the same kind of loom, only smaller.

It is not necessary for every child in the room to make a rug.

Perhaps the children in one class are the rug makers. A few in the class may make rag rugs, another group raffia rugs, another, yarn rugs; and when all are finished, selections are made for the playhouse.

The children should have a voice in all furnishings, the teacher being in the background and guiding only.

It is perhaps well to consider that the rugs and furniture are purchased from the children, and they may be paid with extra material they may wish for homework.

Let the children keep all rugs and furniture not used in the schoolroom playhouse for their own little playhouses that they will doubtless have at home. It is well to encourage home doll houses.

Furnishing the Living Room

Perhaps it will be decided to use a yarn rug in this room. Of course it is important that the colors in this rug harmonize with the general tone of the room.

A thin wood or cardboard may be used for the furniture of this room. The wood may be obtained from kindergarten

supply houses, or children may bring fruit boxes from home for the purpose.

Now it will be necessary to use inventive skill.

Make furniture freehand, or from paper patterns, which the children have invented or have drawn upon squares.

It may take a day or two before they have satisfactorily mastered this part of planning for the furniture.

The different parts of the furniture may be glued or put together with small brads that may be obtained for this purpose.

For the living room the children will probably decide to have plain chairs, rocking chairs, table, settee, and bookcase.

With all this work, there should be board lessons, as indicated before, and all calculations in number possible to little people. There should also be seat-work directions given upon the blackboard, that the children may have practice in reading, perhaps something like the following: —

Get your scissors.
Take your pencil.
Take some paper.
Make a pattern for a chair, or any piece of furniture wanted.

Of course the teacher will show, by placing a diagram on the blackboard, how the squares may be used as a basis for furniture; then, later, the children will probably cut patterns freehand.

The children should select the style of furniture best suited for a doll house, and certain children may be chosen to make the furniture for it.

Furnishing the Bedroom

Let us use a raffia or grass mat for the bedroom, and make furniture to correspond.

The furniture may be made from thin wood, and the parts bound or woven with raffia or grasses.

We shall need in this room: a bed, a cradle, and perhaps a cot, bureau, washstand, chairs, and dress box, a footstool, and a small table or stand.

If desired, the bedroom may be furnished as in summer houses; namely, homemade bureau and washstand, which are draped boxes.

Some articles of furniture for the bedroom are shown in figures 9, 12, 14, 16, 27.

Draperies for Windows and Doors

As the front of the doll house is open, the windows must be opposite or at the ends. As these cannot always be cut out, they may be simulated by using silvered paper or mica. They may be double or single, as desired. Perhaps there will be a double opening between the dining room and living room. The children will be delighted to plan for the draperies and make them at home. They will bring bits of suitable material, and the work may be assigned to different ones who wish to be the drapers. They may also weave draperies out of bits of silk and ribbon.

The bedding and table linen may be made at home, or, if it is thought best, all the children may make sheets and simple pillow slips out of soft material. Fancy pillows the children

will furnish, as they are easily made at home. The covering for dress boxes in bedroom may also be made at home.

In the different rooms, pictures, such as the little landscapes and animals the children paint, may be hung. Frame them with strips of dark paper pasted around.

In the dining room a fold of paper may be pasted for a plate rail, and filled with little plates and saucers that children can cut. There are many other things that will occur later to the teacher or the children as they work on the different rooms.

Furnishing the Children's Room

The furniture required: —

two little beds	small bureau
small washstand	study, or play table
small chairs	small rockers, or armchairs
a few small rugs	some playthings
hobby horse	dolls, etc.

A simple style of furniture should be used in this room.

The Lighting of Dwellings

The lighting of dwellings from primitive times to the present day may be considered briefly with the little ones and dwelt upon more at length with the advanced primary grades or intermediate grades.

Light: —

1. Wick in oil, or candlelight.

How candles were made. Study of simple combustion in candle flame.

2. Kerosene lamplight.

Kerosene, where and how obtained?

Care of the kerosene lamp. Class trim wicks and clean lamp chimneys.

3. Gaslight.

Visit the gas plant.

How is the gas brought to our houses?

4. Electric light.

Visit the electric plant.

THE HEATING OF DWELLINGS

1. Heating by fireplaces.

Consider primitive fireplaces.

2. Heating by stoves.

Invention of stoves.

3. Heating by furnaces.

4. Heating by steam or water.

Visit the heating plant in the school building.

5. Materials used in heating, as wood, coal, peat, oil, and gas, briefly considered.

The temperature of the house. Study the thermometer.

THE PLUMBING OF DWELLINGS

1. Visit the plumbers.

2. Visit the city waterworks.

How is the water brought to the house?

3. Water: hard and soft, tests for distilling, evaporation, etc.

GARDENING OR FARMING

We may consider gardening or farming in connection with our study of the home; that is, our playhouse may be imagined to be in the city or the country, and our garden or farm products may grow in boxes on the window ledges or, better, out in the yard for the doll family.

All nature work considered during the development of the playhouse (which takes a whole or a half year) should have reference to the doll family, even when the material is not raised in the schoolroom, but is brought in from outside, as fruits and vegetables. The children can, in imagination, raise them. Just as much work as is wished may be done in this way — the more the better; but, as often as possible, the children should be taken to the *real garden* or *farm*.

Through this work children may begin to realize our mutual dependence one upon the other.

THE PEOPLE OF THE PLAYHOUSE

Of course there are father and mother, and we will say a baby and a little boy and a little girl.

The children will bring dolls, and dress them to represent the family.

THE WORK IN THE PLAYHOUSE

Let us dramatize in our playhouse the work of the home.

MONDAY

Monday is universally washday. So on this day, when we first consider the housework, let us really wash, making the process a basis for board work.

Of course, during the preceding week, the matter has been discussed; also ironing, baking, sweeping days, etc., and toys have been brought to use in the playhouse.

The teacher asks or writes: —

"What day is this?"
"It is Monday."
"What does the mother do on Monday?"
"She washes our clothes."
"Let us play wash.
Get the tub, John.
Get the washboard, Kate.
Where is the pail?
Who will get the water?
Get the basket.
Hang up the line.
Get the wash bench.
Get the washboard.
Mary may wash the clothes.
Rub the clothes.
Rub them well."

Children sing as she rubs: —

This is the way we wash our clothes,
Wash our clothes, so early in the morning.

By this time the clothes are washed (the doll clothes, those of the doll family).

The teacher writes upon the blackboard: —

Boil the clothes.

Play boil, if desired.

The children sing: —

This is the way we boil our clothes, etc.

Rinse the clothes.

Children sing: —

This is the way we rinse our clothes, etc.

Hang up the clothes.

Children sing: —

This is the way we hang our clothes, etc.
Wind, dry our clothes.

Children wave hands to make a breeze, singing: —

This is the way we dry our clothes.

If the verses children sing are written upon the blackboard, and first the teacher and later the child point to them, the words are incidentally learned.

Again the teacher writes: —

Take the tub away.
Throw the water away.
Put the tub away.
Put the basket away.
Put the washboard away.

All housekeeping work should be done properly and in an orderly way.

As seat work, the children may follow these blackboard directions: —

Get your paste.
Get your scissors.
Get some white paper.
Take a sheet of pretty paper.
Cut the clothes.
Hang the clothes on the line.

(Children understand that this is freehand cutting, to be pasted on the colored paper.)

The result may be like this (Fig. 85): —

Fig. 85.

If able, they may write beneath the pasting: "This is the way we hang our clothes." The teacher may say, "Perhaps you can write something to tell what you have done; you can find it in the verses here" (pointing to board), and the child selects the line desired.

Later in the day another lesson may be given about the washing. Blackboard: —

The clothes are dry.
Get the basket.
Take down the clothes.
Put the clothes in the basket.

Take down the clothesline.
Put the line away.
Get some water.
Sprinkle the clothes.
Fold the clothes.

Children sing: —

This is the way we fold our clothes,
Fold our clothes, late in the afternoon.

The blackboard work here given is very simple for little beginners. It can be made still simpler, or it may be made more difficult, to suit the class.

The teacher may give some of the more difficult directions orally, then write a direction, and so on.

The wise teacher takes every opportunity to *write*, that her children may have every opportunity to *read* — *read*, in order to *learn* to *read*. She takes advantage of the desire children have to do and to make. It is not necessary that the children *learn* every word before sentences are written.

The teacher may write the sentence and read it at first, if they cannot read it. Later, through writing similar sentences, children learn to discriminate words. This is the secret of learning words.

Perhaps the next week on Monday the work is repeated in a similar manner, using the real playthings; but necessarily the work is more difficult.

The third Monday the washing may be done in pantomime.

Before the lesson begins certain places have been selected where the washing equipment is kept, where the washing is

done, and where the clothes are hung; and the children go to these places and act out the process, as directions are written upon the blackboard.

The teacher writes sentences similar to those written the week before, only they are naturally more difficult.

After perhaps a month or less, the washing is discontinued and other phases of housekeeping may be considered.

Tuesday

Tuesday is generally ironing day in well-regulated families. We will play it is ironing day in the doll family.

The teacher writes on blackboard : —

This is Tuesday.
It is ironing day.
Please heat the irons, Kate.
Get the ironing board, John.
Bring the basket, Mary.
Are the irons hot?
Kate may iron the clothes.

Children sing : —

This is the way we iron our clothes,
Iron our clothes, so early in the morning.

Teacher writes on blackboard : —

Now, Mary may iron.

Children may repeat song while Mary irons if desired.

John may iron, now.

Children sing.

Teacher writes again : —

The clothes are ironed.
John, put the ironing board away.
Put away the basket.
Put away the irons.
Hang the clothes up to dry.

The above is to be acted out according to the directions upon blackboard, substituting the children's own names.

As for wash day, continue the occupation of ironing for a few weeks, making the blackboard work more difficult each week.

In the same way continue for a few weeks the occupations for the remaining days. (Fig. 86.)

Fig. 86.

WEDNESDAY

We will consider Wednesday mending and sewing day in the doll family.

Teacher writes upon the blackboard : —

What day is this?
This is Wednesday.

This is mending day.
We will mend our clothes.
Please get the basket, John.
Get the clean clothes, Mary.
Get the needles and thread, Kate.
Now we will mend our clothes.

NOTE TO TEACHER. — If any clothing needs mending, let a few children go to seats and sew, while the children sing: "This is the way we mend our clothes, mend our clothes," etc., to motion, if desired.

Teacher writes upon the blackboard: —

Now the clothes are mended.
We will fold the clothes.
Put the clothes away, Mary.
Put the clean clothes in the bureau.
Our mending is done and our clothes are put away.
Let us sew now.
Get the needles and thread.
We will learn to sew on buttons.
We will make our sheets.

NOTE TO TEACHER. — It is a good idea to have some sewing on hand to be done on this, our mending and sewing day. It is well for the children, both boys and girls, to be taught how to sew on buttons. In all this work make no distinction between boys and girls.

We will suppose that the children have prepared a piece of cloth, checked in 1 or 2-inch squares, upon which they are to

sew buttons. Buttons and cloth they will gladly bring from home.

It is a practical accomplishment to know how to sew on a button, and a great help to a hard-working mother.

Children may on this day also make sheets or pillow slips needed for the doll house.

If this is the first lesson in sewing, the teacher gives explicit directions, perhaps upon the blackboard.

We will suppose that the size of sheets and pillow slips has been considered in the number lesson. The bed has been measured and all allowances made for hems and seams. Following that lesson, the children have cut from paper patterns of these articles.

Perhaps the blackboard directions for seat work following the number work are as follows: —

Get your cloth.
Get your scissors.
Get some paper.
Cut a pattern for the sheet 4 by 5 inches.
Cut a pattern 3 by 2 inches for the pillow slip.
Cut two sheets.
Cut two pillow slips.
Sew the seams in the pillow slips.
Hem the pillow slips.
Hem the sheets.

Thursday

Thursday morning is baking day in the doll family, and the afternoon is calling or visiting day.

Let the following be done in pantomime. The teacher writes on the blackboard : —

This is Thursday.
It is baking day.
What shall we bake to-day ?
Let us play make a cake.
Get the bowl and spoon.
Bring the flour.
What else do we need ?
We need gas.
We need sugar and eggs.
We need milk and butter, too.
We need baking powder.
Beat the butter and sugar.
Beat them well.
Put in the eggs, and beat them well.
Put in the milk, and stir well.
Put in the flour, and stir well.
Put in the baking powder, and stir well.
Where is the cake pan ?
Is the oven hot ?
Put the cake in the oven.

With an alcohol lamp one may make cocoa if desired, giving some of the directions orally and writing others.

Flour paste may be made to directions, partly oral and partly written.

Lemonade may be made — a most enjoyable lesson.

The children may serve a class in the room, or children from another room, with lemonade.

The matter has been talked over with the children, and different ones may bring the necessary materials and utensils. Others may furnish the same on future occasions.

Considerable number work, as well as fun and reading, is the outcome of this lesson.

Talk about the cost of the lemons, and also the cost of the sugar, if so small a quantity can be estimated.

If decided to use one lemon for 4 glasses, children should tell how many lemons are needed for 12 children.

Schoolroom Lemonade for 12 Children

12 small glasses of water
12 tablespoons of sugar
3 lemons

The teacher writes on blackboard: —

Let us make lemonade.
We shall need fresh water.
Will you get us a pail of fresh water, John?
Here are the lemons and the sugar.
Bring a large bowl, a spoon, and a knife.
Bring the lemon squeezer, too.
Cut the lemons, Mary.
Squeeze the lemons, Kate.
Put in the sugar and stir well.
Put in the water and stir again.

Instead of baking or making something to eat on baking day, the children may be taught to set the play table in the doll house, or on a larger scale in the schoolroom.

All may be done to oral and blackboard directions.

Of course the table setting may be also done in pantomime to directions.

Thursday afternoon is visiting day in the schoolroom. Occasionally allow the children to bring their dolls. Let 'it be dolls' visiting day, — a grand reception day at the doll house. Of course there will be more dolls than can be accommodated in the doll house. The small dolls may visit the doll family, and the larger ones may be placed about the room.

Let us hope that there may be a few boys who have dolls.

There is a vision of a dear little fellow with his doll. He stands with a group of girls before the school. All rock their dolls to and fro in their arms, as they sing a lullaby.

Friday

Friday is universally sweeping day.
Play it is sweeping day in the doll family.

Teacher writes: —

> Friday is sweeping day.
> Let us sweep the playhouse to-day.
> Get the broom and dustpan, Mary.
> Get your sweeping cap, too.
> Bring the dust cloth, Kate.
> John may hang the rugs on the line.

Clean the rugs well, John.
Kate, put the sofa pillows on the line.
Sweep the dining-room floor, Mary.
Sweep the living-room floor.
Sweep the bedroom, too.
Now sweep the bath room and the children's room.
Dust the dining room, Kate.
Dust the living room, Ned.
Nell may dust the bedroom and the children's room.
Let us clean the floors.
Get a pail, Ned.
Put some warm water in the pail.
Wash the floors, Ned.
Wash the floors clean.
Clean the kitchen floor. Clean it well, Nell.
Clean the bath room, Kate.
Clean the tub. Clean it well.
Clean the washbowl.
Bring in the rugs, John.
Put them on the floors.
Bring in the pillows.
Put the pillows on the sofa.
Now our house is all clean. (Fig. 87.)

Fig. 87.

Occasionally instead of sweeping and cleaning the doll house, give particular attention to housekeeping in the schoolroom. Board directions are perhaps as follows: —

Dust the bookshelves, Mary.
Clean the blackboards, John.
Wash the blackboards, Fred.
Kate, dust the table.
Wash the window ledges.
Water the plants, Nell.

The little boy and girl of the doll family may give a Mother Goose party. The children move the dolls about and talk for them.

This is for the children a most interesting and natural manner of expression. In fact, during the entire development of the doll house there have been many subjects for interesting and natural conversation or language work (if it must be named).

The first attempt at entertaining will probably be somewhat in the following manner: —

Each child having a doll chooses some character in Mother Goose for the doll to personate. The child speaks for the doll character, either by reciting the poem, or by making a few simple statements concerning the same. For instance, the child whose doll is Jack Horner says: —

"I am Jack Horner.
I sit in a corner.
I ate a Christmas pie.
I put in my thumb.
And took out a plum."

Another: —

"I am little Miss Muffet.
I sit on a tuffet."

Another: —

"I am little Boy Blue.
See my horn.
Hear me blow it."

Another: —

"I am Tommy Tucker.
I sing for my supper."

HINTS ON SEAT WORK

Throughout this work constant allusion has been made to seat work, and many examples have been given to show that seat work should grow naturally out of the oral lessons. Any other seat work is merely "busy work," and has no place whatever in the schoolroom.

Too few realize that the seat work is as important as the recitation, more important, for there the child is left to his own resources.

If the seat work required is a logical outcome of the oral recitation, then it becomes a test of the child's ability. Is there any reason, then, why he should not always have the proper test rather than a haphazard something to keep him busy?

The story of "Red Riding Hood" has been told, the school and the small children have had a blackboard lesson.

They pass to seats, and the question now is, What are they to do at seats while the next class recites?

The thoughtful teacher considered this in planning the day's lesson, and on certain blackboard space devoted to the seat work for this class she had written: —

Take some red paper.
Get your white paper.
Get your scissors.

Cut Little Red Riding Hood.
Cut the basket.
Put some eggs in the basket.

Can we, as thoughtful teachers, discover what her blackboard lesson was?

Sentences 1, 2, and 3 the children have had repeatedly.

They have used the word "cut" and put it in various sentences. We infer that the phrase, "Little Red Riding Hood," has been used on the blackboard. Now it appears as above, — a test. Watch the children. What fun to see them get the idea! "Cut" they know; "Red Riding Hood" they should know, if interest in the recitation was keen.

"Cut" the basket. The familiar "cut" again, with the new phrase, "the basket." Watch. Have they the idea? What they do will show us.

"Put" is familiar (let us suppose). "Some eggs" is the new expression. We infer that they had it in the blackboard lesson. Do they remember it? What they do now is the test.

What advantage has this written test over the oral directions which might have been given instead? Easy of answer.

Often we find the story of "Red Riding Hood" in second-grade readers. Let us suppose the class has just finished the story as a reading lesson. For seat work let them make the poster of Red Riding Hood according to written directions. (Figs. 64 and 65.)

Suggestions for seat work following a board lesson or a primer lesson on "Jack and Jill."

Directions written on blackboard : —

Get your scissors.
Get some paper.
Cut a strip.
Cut a circle.
Make a pail.

Seat work following blackboard or primer lesson on "Little Boy Blue."

Directions written on blackboard : —

Get your scissors.
Take some paper.
Get your circle marker.
Cut a circle.
Make Little Boy Blue's horn.
Blow your horn.

Seat work following blackboard or primer lesson on "The Three Bears."

Directions written upon blackboard : —

Lesson I.

Make a big chair for Papa Bear.
Make a chair for Mamma Bear.
Make a little chair for Baby Bear.

Lesson II.

Make a bed for Papa Bear.
Make a bed for Mamma Bear.
Make a little bed for Baby Bear.

Seat work following a talk concerning the dress of the Puritan maiden : —

Get your scissors and some paper.
Cut two squares.
From one square make an apron.
From the other make a cap.

Suggestions for seat work in connection with a geography lesson on the Western Hemisphere.

Directions are written upon the board as follows : —

At 10.10 John may pass the scissors.

Mary may pass the paper.

Take your circle marker (or compass) and make an 8-inch circle.

With pencil represent the equator.

Open your geographies to the Western Hemisphere.

From tablet paper, cut freehand North America and South America.

Paste in proper position on the circle.

For construction work at the seat, diagrams instead of written directions may occasionally be placed upon the blackboard. Diagrams may be used with oral instructions whenever they will aid in dictation.

Seat work following the story of the "Ugly Duckling."

Board directions : —

First row draw the story.
Second row cut the story.
Third row go to the sand table and show the story.

Following talks upon temperature, the weather flags may be made in advanced primary grades.

1. Fair-weather flag. (Fig. 88.)

From white paper cut a 4-inch square.

From manila paper cut a 1-inch strip 6 inches long.

Fold this strip twice lengthwise for the flagstaff.

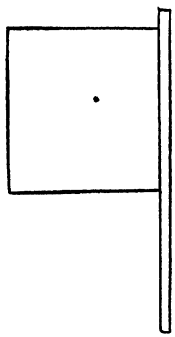


FIG. 88.

FIG. 89.

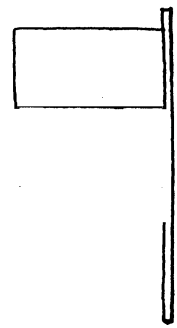


FIG. 90.

Paste the white square between folds $\frac{1}{2}$ inch from the top of the staff.

2. Rain or snow flag. (Fig. 89.)

Same directions as for No. 1, except that the flag is made from blue paper.

3. Local rain or snow flag. (Fig. 90.)

From white paper cut a 4-inch square.

From blue paper cut an oblong 2 by 4 inches. Paste this upon the lower half of the white square.

Make flagstaff as before.

Fig. 91.

4. Temperature flag. (Fig. 91.)

From black paper cut a 4-inch square.

Fold one diagonal, and cut along the fold.

Make staff as indicated above, and fasten flag in the same way.

Whirligig and Windmill

On some windy day, let an advanced primary grade find the following directions on the blackboard. Let them make the article, and so find out what it is. (Fig. 92.)

Take a 6-inch square of any colored paper.

From each corner cut diagonally to within 1 inch of the center.

Fold every other flap to the center, and fasten on the end of a stick (lead pencil) with a pin.

What have you?

To make a windmill, use a 4-inch square of paper and pin to the side of a 6 by 2-inch cubical box.

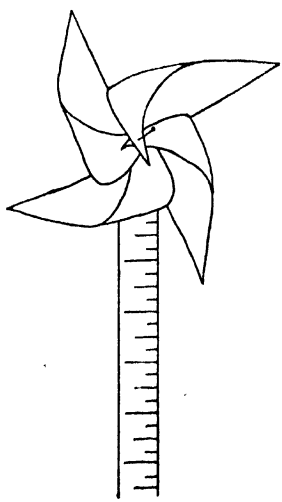


Fig. 92.

INDUSTRIAL WORK

Modern conditions of life are such that it is necessary for manual training to have a place in the school curriculum. This being the case, it is essential that the work should be simple in its beginnings, — so simple that teacher and children may be able to do it without undue pressure, and it certainly should be the outcome of the daily work, and not something extraneous.

The teacher, the children, and the parents should feel that the work is as necessary and vital as reading, language, and arithmetic, for it is a means of expression and is so intimately connected with these subjects that when the child is doing one he is learning the other. Time was when the "three R's" were the essentials in education, but now we give precedence to the "three H's," — the head, the hand, and the heart.

The main features of this course of work are simplicity and adaptability to school conditions.

The true education, according to our highest authority, is not preparation for future living, but is a *process* of *present living;* therefore the "school should represent *life* to the child as real and vital as he finds it at home, in the neighborhood, or on the playgrounds." And for this reason some form of life, or social activity, should be the basis of work through which the child acquires the fundamentals of learning. This is the principle underlying the development of the doll house in the schoolroom.

In primitive industrial work use should be made of materials brought from home (see Suggestions to Teachers, pages 7 and 8); also native materials, as corn husks, reeds, grasses, and rushes. Following are some suggestions for industrial work.

Weaving

1. Simple paper weaving from strips of paper to make mats, book marks, and baskets. (Figs. 93 and 94.)

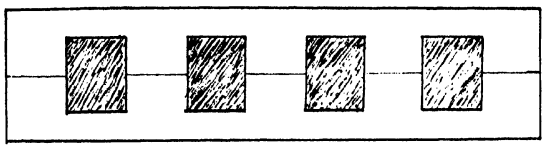


Fig. 93.

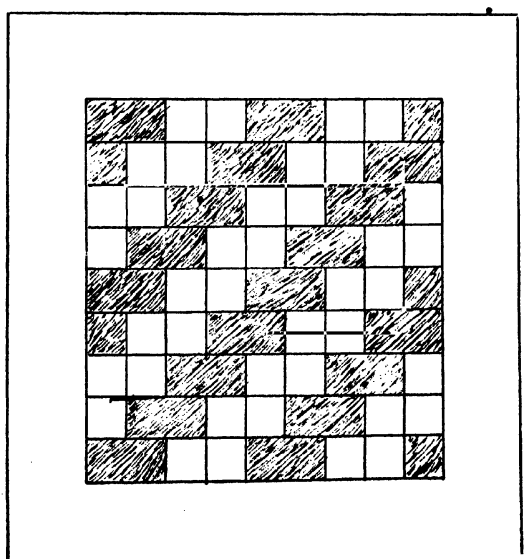


Fig. 94.

2. Rug weaving from carpet, yarn, rags, silkaline (1 inch on bias), ravelings, raffia, grasses, or corn husks. (Fig. 95.)

3. Blanket weaving from Saxony yarn upon cardboard looms.

4. Hammock weaving from cord upon cardboard looms. (See Fig. 84.)

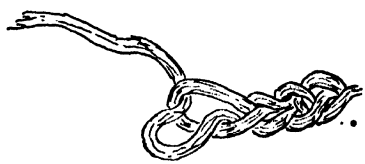


Fig. 96.

Fig. 97.

Crocheting

Crocheting with cord and yarn, using the fingers instead of a hook. (Figs. 96 and 97.)

The chains so crocheted may be made into rugs, hats, baskets, and belts. (Fig. 98.)

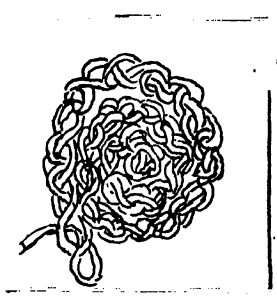


Fig. 98.

Braiding

Cord, yarn, raffia, and tissue paper and corn husks may be

braided and sewed into hats, mats, belts, and baskets. (Fig. 99.)

Wrapping

Raffia may be used in wrapping cardboard which has been cut into picture frames, baskets, mats, and boxes. Also, doll-house furniture may be made in this way.

Raffia Rope

Simple baskets and mats may be made from a rope of raffia wound with a single strand of contrasting color. Corn husks

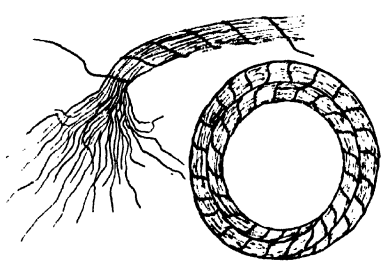


Fig. 100.

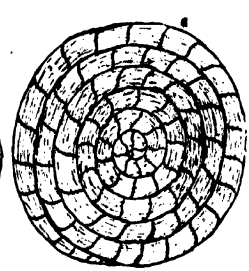


Fig. 101.

may be used in a similar way, — winding with colored twine. (Figs. 100 and 101.)

Clothespins

Two dozen clothespins can be used to good advantage in the schoolroom as dolls. Children may bring them.

The clothespins may be dressed in tissue paper to represent

the characters children are considering in their regular work. If Mother Goose is the subject before the little folks, what delight to represent Little Red Riding Hood, Little Boy Blue, Simple Simon, Tommy Tucker, and the others for a Mother Goose party in the doll house. (See doll house and doll family, Fig. 75.)

At Thanksgiving time the pins may be dressed as Puritans, to be used in connection with the sand table.

There are many interesting and profitable ways to use these pins in any primary grade.

THE WORKSHOP

It is a fine thing to have the window ledge, a small table, or a corner of the room designated as "The Workshop," where can be kept in boxes all the odds and ends of materials, such as little pieces of glass, tin foil, string, etc., that the children have brought from home; pieces of colored paper and anything whatever that could be used either at the sand table or in illustrative work at the desks. It is not meant that the regular material be kept in this place, but that which might be incidentally needed. For example, in seat work one row of children may be given the regular working paper and told to fold or illustrate any given thing; the next row pencil or paint to picture the same; another row directed to go to the workshop and select materials best suited to make anything they choose that is connected with the lesson.

Often one child will have an idea of something he would like to do; then let him work out his idea from the materials he finds in the workshop.

Each week let two children be appointed by the class to look after the workshop and keep things in order.

It is a good plan to have other schoolroom duties of the housekeeping nature cared for similarly. Thus all have an interest in the order of the room.

GRADED CITY SPELLER

Prepared from lists furnished by Principals and Teachers in the Schools of six Cities

EDITED BY

WILLIAM ESTABROOK CHANCELLOR, M.A.

Superintendent of Schools, Bloomfield, N.J.

Second Year Grade.	Part I . . .	6 cents net
Second Year Grade.	Part II . . .	6 cents net
Third Year Grade.	Part I . . .	6 cents net
Third Year Grade.	Part II . . .	6 cents net
Fourth Year Grade.	Part I . . .	8 cents net
Fourth Year Grade.	Part II . . .	8 cents net
Fifth Year Grade .	. . . . .	12 cents net
Sixth Year Grade .	. . . . .	12 cents net

"The lists of words are so excellent, and from a financial standpoint the project is so practical and economical, that I predict for this particular publication a wide sale."

W. L. MACGOWAN, *Principal of the High School, Warren, Pa.*

"It is the best Speller I have ever seen. It will win its way without any doubt."

H. L. ALLEN, *Dalton, Mass.*

THE MACMILLAN COMPANY

64-66 Fifth Avenue, New York

BOSTON CHICAGO SAN FRANCISCO ATLANTA